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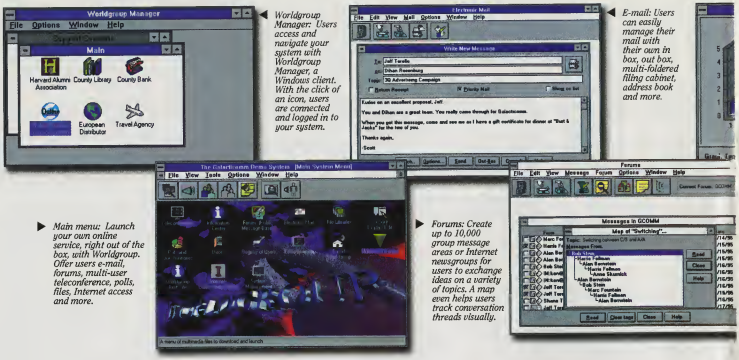

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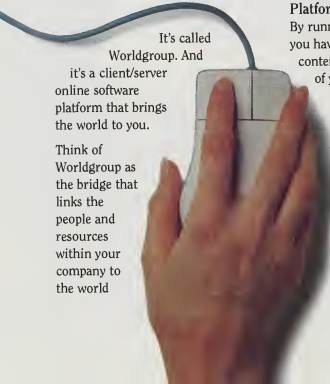

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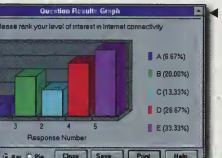
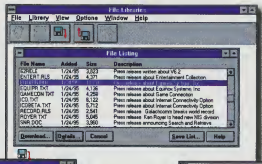


Polls and Questionnaires: Offer marketing surveys, suggestion boxes, applications forms and testing, to name a few. Results are immediately tallied and can be viewed as exportable bar graphs or pie charts.



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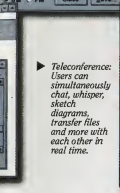

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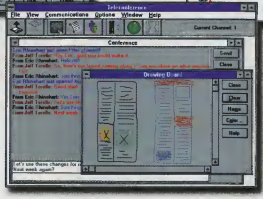

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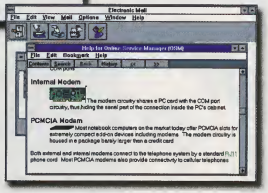

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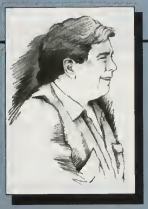

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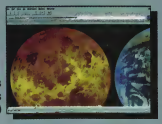

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Editor/Publisher

Jack Rickard

Editor - at - Fault

David Hakala

Contributing Writers

Chris Babb
Lenny Bailes
John C. Dvorak
Michael Erwin
Gary Funk
Bill Gram-Reefer
Walt Howe
Ric Manning
Phyllis Phlegar
Bob Rankin
Rea Redd
Lance Rose
Doug Shaker
Dave Tennant
Jim Thompson
Wallace Wang
Jim Warren

Graphic Design and Production

Marla Asheim
James Kovac

Subscriptions/Circulation

Patti Burnett
Cathy Youngblood

Technical Operations

Gary Funk

Newsstand Circulation

Martin L. Shafkowitz

Advertising Sales

Roger Mertes
Karen Poulson
Vance Watt

Editorial Offices

8500 W. Bowles Ave., Suite 210
Littleton, CO 80123
(303)973-6038 Editorial
(303)973-3731 Fax
(303)973-4222 BBS
(800)933-6038 Subscriptions
http://www.boardwatch.com

Electronic Mail

Internet:
jack.rickard@boardwatch.com
subscriptions@boardwatch.com

FidoNet: **1:104/555**

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IN ORDER OF NUMBER OF VOTES RECEIVED BETWEEN JANUARY 1 AND JUNE 30, 1

	TITLE	PHONE	DESCRIPTION	SOFTWARE	LINE
1	Software Creations	508-365-7139	The Primary Source for Entertainment Software	PCBoard	134
2	EXEC-PC	414-789-4360	Largest dial up BBS for shareware software.	Custom	280
3	GLIB	703-578-4542	Gay & Lesbian information, Internet email, live chat	TBBS	23
4	Monterey Gaming System	408-655-5555	Custom interactive gaming and multi-user conferences	Custom	32
5	Blue Ridge Express	804-790-1675	Large files base with 3 Gigibytes and CD-ROMs	RBBS	36
6	Deep Cove BBS	604-536-5885	News, publications, internet email, shareware, games	TBBS	33
7	AlphaOne Online	708-827-3619	Adults only, matchmaking, personals, shareware	TBBS	19
8	America's Suggestion Box	516-471-9625	13 Gigs of Shareware, Internet email, Usenet newsgroup	TBBS	16
9	Lifestyle Online	516-689-5390	Chat system, adult lifestyles, personals, email	OraComm	74
10	Prodigy Genealogy	800-775-7714	Information and help of searching for people	TFP	400
11	Crystalis	214-690-9235	34 CD-ROMs online, Internet email, online publications	TBBS	68
12	Pleasure Dome BBS	804-490-5878	Adults only, matchmaking, Internet email, online games	Wildcat	30
13	INDEX System, The	404-924-8472	Online publications, BBS lists, Internet email, chat	TBBS	16
14	Pennsylvania Online	717-657-8699	Internet accounts, 10 Gigs online, Fidonet IC	TBBS	24
15	Springfield Public Access	413-536-4365	4000 Usenet newsgroups, 8 CD-ROMs, family BBS	TBBS	1
16	OS/2 Shareware	703-365-4325	OS/2 support and shareware files	Maximus/2	1
17	DSC	215-443-7390	Full Internet, Internet accounts, full Usenet	PCBoard	
18	Wizards's Gate BBS	814-224-1635	No fees, full access on first call, 12 Gig online	SHS	
19	Aquila BBS	708-820-8344	Illinois's largest filebase, message base	PCBoard	
20	Nashville Exchange, The	815-383-0727	Internet, Usenet, FidoNet, shareware, online games	TBBS	
	deltaComm Online	919-481-9399	Distribution & support for Telix	PCBoard	
	File Shop BBS, The	816-587-3311	US & World News, Stock information, full Internet	RA Pro	
	Traders' Connection	317-359-5199	Largest classified ad database, national access	Custom	
	[illegible]	216-381-3320	Large message base, shareware, ads	PCBoard	
	[illegible]	810-439-1509	General BBS, messages, files, chat, email	Wildcat	
	[illegible]	908-205-0189	Since 1982, online games, Internet email	TBBS	
	[illegible]	703-749-2880	9 Gigs online, chat, messages, games, matchmaker	Falken	
	[illegible]	914-667-4066	Internet, Usenet, shareware, adult area	PCBoard	
	[illegible]	[illegible]	5.7 Gigs, 35,000 files, 100 online games, echos	Wildcat	
	[illegible]	[illegible]	Large shareware system, chat, Internet email	TBBS	
	[illegible]	[illegible]	[illegible] 800 access, 10 Gigs online	TBBS	
	[illegible]	[illegible]	[illegible] games, Usenet, Internet, shareware	PCBoard	
	[illegible]	[illegible]	[illegible] support, 5 Gigs online	[illegible]	
	[illegible]	[illegible]	[illegible] files online	[illegible]	

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EDITOR'S NOTES

RING THAT BELL...

We receive a number of different questions about the Internet that all seem to revolve a bit around the obvious, but not so obvious question - what is it anyway? There seems to be a quest to define it. It is one of the many areas where again I think I may know part of the answer, but I'm never sure I quite understand the question.

The analogy often used to describe this conundrum is of the 12 blind men circling an elephant - feeling up the part they are nearest to, and then disagreeing argumentatively about its particular nature and characteristics. What the Internet IS becomes very dependent on how you access and interact with it, what you use it for, and the particular point in space where all of this happens for you. It can be a very different thing 60 miles away and used for some other purpose.

That said, I did spend about a dozen years working for various Department of Defense Contractors in one life, seventeen or eighteen years in the personal computer world in another, have written and developed software, and edited a magazine on online topics, including the Internet beginning in April 1989, and have further been involved in investing in telephone companies from the age of 17 - an inherited habit my grandfather developed, also as a young man, in the mid-1930s. In this, I am probably neither more nor less qualified to describe the elephant from my point of view than any of hundreds of others, but at the urging of an ongoing number of our readers, I have determined to put down in writing what the Internet looks like to me, and the sounds it makes while in the same room with me busy being an Internet. Note that I did not invent it, don't entirely approve of the exact manner in which it was accomplished, but nevertheless am quite sincerely biased in favor of most of it and its past, current, and likely future effects.

And I do so mainly in that much of what I hear about the Internet, and some of the decisions being made, while good decisions and with likely good effects, are nonetheless based on myth and misinformation. Primarily, there are two problem areas that get people off on the wrong foot - that there are 30 million people already on the Internet, which is understandable since the Internet is at least 25 years old. Neither, from my point of view, is precisely true. But the net effect is to foster a sense of urgency that the party is well under way, and each of you are severally and as a group missing it - already late and behind the curve.

HISTORICALLY

Historically, my sense is that the Internet did begin in a very seed-corn fashion with a Defense Advanced Research Projects Agency (DARPA) project in 1969 titled Resource Sharing Computer Networks. Vinton Cerf, founder of The Internet Society, was actually involved in some of the early packet networking work at Stanford University and UCLA although he was by no means alone. But it was a smallish team, and his status as "Father of the Internet" will go unchallenged by me in any event.

The work centered around a perceived problem in the Department of Defense - how to keep military sites in communication across the country in the event of a nuclear war. If just a few metropolitan areas were wiped out, communications could be severely disrupted. Before you espouse the evils of paranoid cold war thinking, note that within the last three years nearly a quarter of our population HAS been cutoff for several hours at least by a single backhoe incident in New York in the one instance, and a Central Office switch software bug in the second. Our current voice telephone system, very often cited (by telephone company apologists) as the "greatest telephone system in the world" is just inexcusably fragile even today. It is largely the "greatest" because our gross national product is approximately equal to the rest of the world combined, and our standard of living is such that we can afford 120 million telephone installations. From my point of view, our telephone system is badly broken, and incapable of deploying new services in any efficient fashion.

But beyond tying a few mainframes together to pass messages and a few files, there was no Internet. Not for a long time. From 1969, a lot of development in connecting computers was performed. Since this was funded by ARPA, it was generally referred to as ARPANET. But it was in every sense experimental. From 1969 to 1983 a lot of different packet switching schemes were tried and TCP/IP is what grew OUT of ARPANET, not what started ARPANET. During most of the seventies, the protocol was generally referred to as just the Network Control Protocol or NCP. The term Internet was probably first applied to a 1973 research program that culminated in a demonstration system in 1977. It demonstrated networking through various mediums, including satellite, radio, telephone, ethernet, etc. using packet switching. And this formed the roots of the Transmission Control Protocol and Internet Protocol (TCP/IP).

But it was not until 1983 that all nodes on ARPANET were required to use TCP/IP to connect to it. Understand that in 1983, Bolt Beranek, and Newman was contracted to implement TCP/IP in the Version 4.2 of the Berkeley Standard Distribution of UNIX and TCP/IP was adopted as a MIL STD. BSD UNIX at that time was a free operating system, developed by the Computer Systems Research Group at the University of California at Berkeley. This move ensured the wide deployment of TCP/IP - and historically is where the affiliation between UNIX and the Internet began. Also in 1983, the DOD moved the unclassified portions of the Data Defense Network to

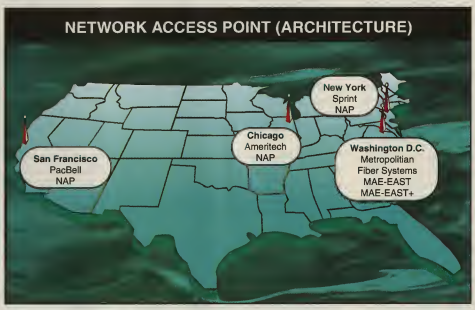
create MILNET, and separate it in some ways from ARPANET. Actually in January 1983, the non-experimental ARPA Internet first appears and operation was passed to the Defense Communications Agency (DCA).

So the development of an "internet" technology took about 14 years. And I would mark 1983 as the first operating, non-experimental, real live Internet with a capital I network. But it was a military network with a couple of hundred computers connected to it.

Note the term "military." Universities and the general public were NOT welcome on the ARPANET in 1983. Or in 1984. Or any other time actually. It was a network for DOD contractors and military sites. And there were those who were involved in some aspects of research for DOD and DOD contractors who also had a strong foot in Academia. They were constantly in a situation where many of their peers were offnet while they were on net. And they began campaigning for access for other researchers. In 1984 the National Science Foundation established an office for networking. Their first efforts at a national backbone NSF Network or NSFNET was deployed in 1986 as a 56 kbps network. In 1987, they contracted with Merit - an existing nonprofit corporation of some 11 Michigan Universities to build a national network using T1 1.544 Mbps links to 16 cities. IBM and MCI joined together to form a subsidiary company titled Advanced Network Services (ANS) and Merit awarded a subcontract to them to actually build a T1 network. In the interim, a number of universities and research groups actually DID get access to ARPANET, and the NSFNet was more of an evolution of ARPANET than an entirely new network.

Note that in all of this plans were made to actually shut down the old 56 kbps ARPANET and there was a great deal of concern as to what would happen when the plug was pulled. It did finally happen in 1990, and unless you were in the room when it happened, you couldn't tell.

In any event, the NSFNET was actually up and running in 1986, not 1969. And as a historical byproduct of the exclusivity of ARPANET, it carried a historically radical philosophy. Instead of excluding people and institutions, it seemed to live to connect them instead. Anyone who could get a connection to someone also connected was essentially welcomed. The topic of government funding for this, and the activities of one east coast real estate agent, led to the development of an Acceptable Use Policy or AUP. It did restrict access to non-commercial research and education uses. But this was at a time when technology transfer from Universities to private industry was very much in vogue. So AUP was quite vague, and anyone who agreed to abide by AUP was assumed to have done so. There were a few incidents, but they were dealt with somewhat arbitrarily by Steve Wolfe of the National Science Foundation and life went on.



So from my personal point of view, there was no useful Internet anywhere prior to about 1988. That is approximately the time that a national backbone operated by the National Science Foundation came into being in such a fashion that most schools could connect to it, and non-military individuals could access it.

In 1992, there was much ado about some legislation proposed by Al Gore, several times actually, and finally passed, that proposed a National Research and Education Network - NREN - a new T3 network funded by the government. The original Merit contract never went beyond about $40 million in its best year and NREN originally proposed spending $2 billion to connect every school and library and everything else. It was passed, but was changed to fund a variety of government agencies forays into networking. No new network actually ever came of it.

To many people coming online today, the Internet looks like the World Wide Web. WWW was started by Tim Berners-Lee at CERN in Switzerland in 1989 to facilitate the sharing of information among researchers in high-energy particle physics. It extended the concept of "hypertext" not only within a document, and between documents, but also between different computer sites accessible to each other via the Internet. But while some demonstration servers quickly came up, clients were a little unavailable for the dialup crowd. You could TELNET into a site that sported WWW, and then use that to get on the Web - but it was all text. And really it was mostly a backwater on the Internet - another interesting thing.

In 1993, a small group at the University of Illinois and Champaign/Urbana had developed an Xwindows interface to the World Wide Web they called Mosaic. The NSF actually funded further development of a Macintosh and Microsoft Windows version of Mosaic through a grant to the University. The first Microsoft Windows version appeared about November of 1993. We actually covered Mosaic in our March 1994 issue.

The Mosaic Web Browser put a pretty face on the Internet. You could navigate

the World Wide Web by clicking on links using the mouse. More importantly, the browser was extensible; you could add viewers for GIF images for example, retrieve the file, and view it as it came in. This extensibility allowed users to add "players" for sound, for video clips, really for almost anything. Today, advanced Mosaic browsers such as Netscape have added other functions quite beyond World Wide Web, including ftp capabilities, telnet, electronic mail, and even USENET News Groups. Almost anything you can do on the Internet you can do with a Mosaic browser - so at this point it goes quite beyond the World Wide Web even. Mosaic is a graphical interface for the Internet, and has been referred to as the first "killer application" for the Internet. It has certainly fueled the current interest in the Internet. But at this writing, it is barely 18 months old.

So historically you can mark the birth of the Internet from either 1969, 1983, 1988, or early 1994 with approximately equal accuracy. I think the Intenet in its first significantly useful form — available to severely interested parties and the backplane for e-mail — appeared in 1988. The Internet for the rest of us, and certainly what we CURRENTLY think of as the Internet, isn't two years old. The party is just now beginning, and you haven't missed out on anything.

CURRENT INTERNET

One of the great ongoing debates about NSFNet, virtually from its first day of operation, was about the "privatization" of the Internet. There was great fear that IBM specifically, and MCI as an accomplice, was out to "steal" the Internet. But the desire among almost everyone was for the Internet to eventually be run at a profit by a variety of "providers" who would build the network.

As a result, NSFNet has been in the business of going out of business for a number of years. They have had a little difficulty in actually getting there, but today, as I write this, (April 30 1995) is supposed to be the last day of NSFNet operation. Again, I don't think you will be able to tell without test instruments.

The reason why goes to the heart of what the Internet is. The NSFNet backbone has carried a decreasing percentage of Internet traffic even as the Internet itself has grown enormously. The reason for this is easy to describe, but difficult to picture in a macro sense. Let's assume you are connected directly to the NSFNet backbone. And so you can claim to be connected to "The Internet." Others want to be likewise connected and you sell access to three other parties who have LANs and computers and so forth. And let's further assume that they can't really afford the leased line to your location and your port charge so easily so each of the three actually team up with two partners to "share" access to you. We now have six different institutions connected to you. And assuming each of them further sells access to themselves to ten or fifteen other parties, and so on in a branching tree of connectivity. Soon you have a largish pyramid of several hundreds of organizations and thousands of individuals all with access to the "Internet". Mostly, they have access TO EACH OTHER. And most of the message traffic, USENET news, ftp file gathering, and so forth actually happens within this network, with some minority percentage representing traffic that must go outside of your network to somewhere else in someone else's network that is likewise connected to the NSFNet backbone.

This is actually quite magical. Let's say you decide that since you are the point at which these three/six organizations connect, you've got the hammer. So as Lord and Master of your little piece of the Internet, you raise your prices, and issue an edict that all signature files appended to e-mail traffic will include the maiden name of the mother of whoever sent the message. In about twelve minutes, the three organizations connecting to you decide to connect to each other instead, get a different connection to the NSFNet, and neither your users nor theirs can tell the difference.

Since this network can be comprised of a variety of levels, and in practice does, this scenario is played out at every level of the tree. And The Internet has at this point grown entirely beyond the concept of a backbone, or a network - from my point of view it is a belief system. We could declare a mud hut in Nigeria to be The Internet, and if we can connect to it, and connect anyone who wants to be connected to it to us, then the heart of the Internet becomes a mud hut in Nigeria - about as easily as it can be a CIX or an NSFNet backbone.

There are some housekeeping chores that must be done. The most important is the domain name system. Despite it's inaugural date in 1986, we calculate the deployment of a useful version of the domain name system to the fall of 1988. It was a singularly interesting development. X.400 had been officially adopted as the e-mail addressing scheme of the future, but the domain name system won anyway. This ties entirely made up, but easily remembered addresses such as boardwatch.com to an Internet Protocol routing numeric such as 204.144.169.1. A very distributed database of domain name servers does little more than associate the easily remembered boardwatch.com to the impossible to remember 204.144.169.1 for virtually all purposes - ftp, telnet, World Wide Web, and e-mail. It seems simple, but it was actually revolutionary in its way. I could be jack.rickard (very close to the name my mother gave me) at boardwatch.com.

At about this time, in 1988, the online community had suffered from "e-mail islands" for nearly ten years. If you wanted to send e-mail to someone on MCI Mail, you had to have an account at MCI Mail. If you wanted to send e-mail to CompuServe, you had to have an account on CompuServe. And if you wanted to send e-mail to someone at GEnie, Prodigy, America Online, etc., you had to have separate accounts on those as well. It was not only a poor situation, but one the various operators of these services were loathe to give up. They in effect "owned" their members, and could gain new members by selling access to existing members. The idea of interconnecting was not popular. A group of defense contractors, led by Boeing, who purchased huge numbers of e-mail accounts from these services, held a war council with the online services and delivered an ultimatum in 1988 - interconnect or we will do it for you. As a result, there were some half-hearted efforts and CompuServe, and MCI Mail, and AT&T, did actually do some awkward gateweying of electronic mail between each other.

This brings up one of the ongoing problems of Internetworking. It applied to e-mail and really applies to all types of connectivity economics. It is referred to as peerage (peering), as settlements, or as peerage and settlements and/or peering. All have the same basic lack of definition. If you represent 1200 sites and 100,000 online users, and I represent any other number, 10 sites and 1000 users, (or 12,000 sites and 1 million users - it really does not matter) should I pay YOU so my users can access your sites and users? Or should

you pay ME so that your users and sites can access mine? And how much should we pay? And should we pay it on traffic going from me to you, or from you to me? And who has the most users? And whose users are the "best?" Whose have the highest income? Whose are the best market for what products? Who was "here" (wherever that is) "first" (whatever that means)?

If you assume two intelligent, nay GIFTED adults, each dressed in the finest suits money can buy, and further assume EACH and BOTH have the very BEST and most generous intentions to negotiate a fair agreement between both companies for settlements between networking peers, it is STILL essentially unsolvable and impossible to do. Sure, it would be unlikely to HAVE two such individuals given the fear, paranoia, and enormous competitive pressures, but if you DID have such a situation, there is no lucid basis for a rational agreement. If they DID achieve one, then the NEXT party would have to negotiate with the now established duo. It is recognizably impossible.

So widely recognized, that the solution in recent years has been to postpone solution. The Commercial Internet Exchange (CIX) which we have lashed a bit unmercifully in recent issues, DID perform an historic and useful function. They declared connectivity with NO settlements. If you want to be connected, you are. And no settlements necessary between entities connected. Actually, in its origin, there was an implied "for now." But it has operated this way. That CIX later tried to make its membership fee essentially the price of no-settlements is irrelevant and largely made CIX itself so as well. But the organization did establish a precedent of operation without settlements.

Meanwhile, the Internet had become very much the thing in Computer Science departments in Universities across the country. In college, you had FREE E-MAIL, and to ANYONE on the Internet. It was a little awkward if your friend was on CompuServe or another commercial site, but it worked. And these graduate students were persuasive that you needed an Internet e-mail account. Almost overnight, the world reversed and the commercial services that were trying to sell e-mail accounts found that prospective buyers had a single qualifying question - Can I send e-mail over the Internet? To avoid being the LAST in connectivity, once one of them offered it they ALL had to or they would forfeit market share to whoever DID offer it. Within 18 months ALL of them offered some form of e-mail connection to the Internet and the Internet became the common backplane for all online services for electronic mail. It is my belief that beyond World Wide Web, beyond files, beyond T1 connections, beyond all else, THIS was the ultimate role of the Internet. And I think in future years, it will become apparent, that the LEAST sexy Internet application - direct person to person e-mail, will not only not diminish in importance when compared to video, voice, graphics, etc., but will continue to increase.

The National Science Foundation continues to fund, under contract to Network Solutions, Inc., the maintenance of the top level domain database for registration of domain names and Internet Protocol numbers. If you register a domain in the United States, you do it by sending an electronic mail message to the NIC. This is one of the few government funded functions we just don't know how to get rid of. Someone has to maintain the top of the pyramid with regard to who is named what and how that is associated with an IP number. Contact the Network Information Center at **http://rs.internic.net**. They carry a library of registration templates to register IP numbers and domain names. You can register a domain name by retrieving the template, filling it out, and e-mailing it in.

BUT WHAT IS IT?

Again, the most common depiction of the Internet by veterans is of a cloud - yes, just like a cloud in the sky. And it is a favorite because it is accurate. If you run a leased telephone line a few blocks or a few miles to an Internet Service Provider, and thus link your office or organization's LAN to "The Internet," you just built part of it. The existing telephone companies actually lay the wire, run the Central Office switches for general communications, but you just extended the Internet by the seven miles of leased line it took you to connect. And you just connected everyone in your organization to "The Internet."

Understand that this is not a cute but frivolous appeal to the sanctity and value of every man. It really DOES work this way. The level of investment and activity by small, medium, and large organizations to extend the Internet just a few miles to their office location, dwarfs all that was ever done with ARPANET and NSFNET, in any way you want to measure it, people, computers, money, leased line miles, etc., by a ratio certainly of tens of thousands and more likely at this point MILLIONS to ONE. There is probably at this point as many linear feet of "Internet" WITHIN any major metropolitan area as there ever was NSFNet backbone spanning the country. This is actually inherent in hierarchical distribution systems.

THE END OF NSFNET

As mentioned, on April 30, 1995, operation of the National Science Foundation Network backbone ceased. And in this case you probably CAN'T detect it even with test instruments. In its place are a handful of Network Access Points. These aren't really funded by the government actually. They were kind of "designated" by the government.

In their wisdom, the NSF decided NOT to designate a mud hut in Nigeria as the Internet, but rather three Network Access Points or NAPs. In true government fashion, the THREE NAP's are actually FOUR, and the fourth is actually TWO sites in Washington D.C. But the heart of Internet connectivity as of this evening is actually via NAPs. The NAPs are operated by private companies, and they charge for connection to them. In theory, anyone can connect to them, and in reviewing the list of who is, I would say that the theory is basically sound. If you connect to a NAP you are connected to "The Internet" and if you are connected to someone else who is in turn connected to a NAP you are connected to "The Internet" and so on with as endless an extensibility as current technological bandwidth limitations will allow.

The three basic NAPs are:

San Francisco - Operated by Pacific Bell using Asynchronous Transfer Mode (ATM) technology at connection speeds up to 155 Mbps.

Chicago - Operated by Ameritech Advanced Data Services and Bellcore. Also uses ATM for connections up to 155 Mbps.

New York - Operated by Sprint, and apparently actually operating from Pennsylvania - but otherwise recognized as the New York NAP. Again, the government was involved.

Continued on Page 142

Letters to the Editor

Boardwatch Magazine
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Littleton Co 80123

LETTERS TO THE EDITOR

Address correspondence to Letters to the Editor, *Boardwatch Magazine*, 8500 West Bowles Ave., Suite 210, Littleton, CO 80123; by fax to (303)973-3731 or by e-mail to `letters@boardwatch.com`.

COMMENT ON THE APRIL ISSUE

Regarding your article titled "Windows NT - For Real" in the Telebits section; the correct spelling is Linux, not Lynux. It was probably just a type-o or misprint but just in case...

Also, you might want to take a look at this product. It should take you no more time to install and setup than NT did and the X-Windows GUI definitely beats Windows. I'd recommend getting the InfoMagic or Slackware Pro CD's, new versions should be out in a few weeks. You could run it with NT as you had originally planed with OS/2.

It's just a suggestion, from someone who's still running DOS 5 with DV for his BBS. <g>

Joseph J Klemmer
Klemmerj@hoffman-emh1.army.mil
Alexandria, Virginia

♦♦♦

Joseph:

I guess I really don't think UNIX is the solution for the bulk of our readership - largely due to complexity. And those who do use it seem to describe a manually operated tape operating system in some respects. Yet for technoids, Linux has truly evolved into a computer busy-box without peer. And frankly I am prone to such things myself. We recently received a set of CD-ROMs from Walnut Creek CDROM with the Slackware Linux on CD, Xwindows, and Perl. See this issue for a story on Walnut Creek and the fascinating collection of CD-ROM's they are offering now. And I have decided to join the club. We're building a Linux machine as I write.

Historically, TCP/IP really got its start with its inclusion in the Berkeley Standard Distribution in 1983. And you're probably right, we've been a bit anti-UNIX without really good cause. It's powerful, and a lot of fun. I guess I will never view it as a solution for the average Joe in his basement or the small business looking for a hassle-free platform to run a web site. But we are actually shopping pretty hard for a Linux columnist to do a regular feature in Boardwatch on this fascinating free operating system.

Jack Rickard

♦♦♦

TIME AFTER TIME

Jack;

Really enjoyed your piece on TIME in the April issue; I too had a similar childhood experience. I downloaded and tried out all the programs you mentioned and found I liked TARDIS the best also. In addition, several months ago, I got a script from the DataStorm BBS (I think) that runs ProComm+/Win and calls the UTC/NIST BBS and also sets the PC clock.

My question/problem is, do you know of anyway to use these programs to input to the SET TIME Console command on a Netware v3.11 server to set the server clocks? Or perhaps an NLM that will do the same thing? I have about a dozen servers to shepherd and the clocks are constantly out of sync. And, since each PC that logs in to a particular server has its clock set to "Server Time" at login, all the PC's clocks are all over the board too. It's a nightmare for backups and file dates. Thus, it means another task that must be done manually, as if I didn't have enough things to do!

Any ideas/help you might provide on this would be greatly appreciated. By the way, I'm a relatively new subscriber so I haven't seen your previous renditions of "the story" but really enjoy your mag and read it from C to C just like I do InfoWorld.

Thanks again;

John Baumgardner
jbaumg@afisc.maricopa.gov
602.506.3102 [voice]
602.506.7056 [FAX]

♦♦♦

John:

*Good question. I don't know, but as so often happens, I know someone who might know. Marc Perkel does some interesting shareware programs, among them MarxMenu. One of the things it does is allow any workstation to update the Novell server time function. So you can use one of your systems to get the time using Tardis, and use the same workstation to update the Novell time server. I think MarxMenu is **$59.95** but I would urge you to contact Perkel to see if there isn't a little utility he's done seperately to do the same thing. He can be reached at Computer Tyme, 411 North Sherman, Suite 300, Springfield, MO 65802;* **(417)866-1222** *voice;* **(417)866-1665** *BBS/Fax; Internet:* **`71333.427@compuserve.com`**

Jack Rickard

♦♦♦

WINDOWS NT AS A WWW SERVER

I read with much interest, your article in the most recent *Boardwatch Magazine* (April, 1995) titled: Windows NT - For Real. My question is, although your article indicates that Windows NT seems to be a good OS for the implimentation of a WWW server, you really didn't say too much as to how to go about setting a WWW server up. I understand that that was not the purpose of your article, but would appreciate your assistance in pointing toward resources or companies that would educate me in this area.

Thank you for your assistance.

Desj@ix.netcom.com

♦♦♦

Des:

Are you in luck or what? Check out this issue's cover story. We just actually made the move to NT as a Web server here at Boardwatch and frankly I haven't been this excited about a project in two years. WebSite, a 1.0 release that maybe needs a little "maturing" in the fires of use, already has us wowed and NT, even in the WorkStation version is just about as charming as it can be. We name names and show the stuff in this issue.

Jack Rickard

♦♦♦

Jack,

I just stopped for a second to drop you a note. A couple of months back while on MY quest for things to encourage me on my quest I came across your Boardwatch magazine, as an oldster to computer technology but new to the world of modems & BBS, this is what I needed!! Your broad but in depth coverage of online information/legislation/ who's why's & where to is essential in my search. The idea of regulation by idiots who don't know a modem from a toaster gives me chills. I can regulate myself, thank you. Give 'em a modem, get 'em online and they won't have time to think about regulation. They'd

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be having to much fun! Keep us informed before it's gone, I'm counting on you.

Thanks for all the tid-bits about the WWW. Once I hooked into that I was a goner, I hate myself, my love of audio has waned slightly since and I think I've watched maybe 3 hrs. of T.V. in the last 4 months.(no great loss there). I didn't think anything could get me this excited at 40, spend the day around the house with the kids, go to work with the mainframes for a shift, come home and dial around till almost sunrise. Life is good.

I'm not a sysop (yet)<G>, but I have chatted with a few, an interesting fellowship with unlimited time on their hands to play with computers and hardware. I am in awe. I'd love to see the day when they're all accessible through the net. Keep a spotlight on the sysops, they deserve it. I've read and subscribed to a few mags in my time and I'm sure judging by the style and format that Boardwatch will set the standard and be a staple for years to come.

I checked out the Boardwatch home page, very nice. please accept my subscription I left there.

Gotta get back to it,
Kevin Garlick
ltwq07a@prodigy.com

***

Kevin,

Pleased we're hitting the mark. It is an exciting time, and life is indeed good. I guess I think regulation will come and we'll just have to deal with it. I have a certain fatalistic view of such things. A good portion of the population are cattle disguised as humanoids, and our mission is not to get trampled by them as they mill around the feed trough.

I am particularly disturbed by Gordon Cook's missive in this issue about the legislation in Washington state. There is a raging movement among overweight middle-aged moms to protect their brood from the horrors of sex online. I'm so out of line with this it's almost hard to describe. The problem is that I am male, and was in fact 14 years old at one time. I know a lot of other gentlemen who were ALSO 14 years old at one time or another and I've asked around. The reports are totally unanimous - without ANY personal computers at the time, we ALL had access to photographs of winsome ladies unadorned by the valiant efforts of the Garment Workers of America - and actually more lurid materials beyond that. And at age 14, this is an area of intense interest and I suspect, from the universal nature of the experience, a rather natural part of the coming-of-age process for males.

At the same time, I look askance of gentlemen in their thirties and forties who have apparently failed to develop mature adult relationships with the fairer sex, and STILL spend hours perusing pornographic materials online. I haven't picked up a Playboy magazine - even for the editorials, in over twenty years. So from my point of view, I think these adult materials should be restricted specifically TO the use of adolescents, and you should be required to provide proof of age to access them. Proof that is, that you are UNDER the age of 18 or 21 or thereabouts.

But that's just one opinion. Pick out some high ground on the fringe of the "herd" and avoid the mooing and milling as best you can. They smell money and it's getting them all worked up. They can be dangerous in close quarters.

Jack Rickard

***

A CERTAIN EXECUTIVE

There was a recent article by Harley Hahn and Wendy Murdock describing how a certain software company CEO met his current wife. Although it does not say his name, it leaves STRONG hints. Within the past year, I saw Bill Gates being interviewed, and Connie Chung ask him if it was Love at first E-Mail. He replied that they never E-mailed and. Just thought that the authors of that article should know what Bill is saying these days.

Daniel M. Pomerantz
Udmpomerantz@msuvx1.memphis.edu

***

Daniel:

It's an interesting observation. I do a lot of e-mail, and love the reach and grasp of the online community. But it does not make for a life in total. It is best used as an adjunct to it. In fact, I'm increasingly uncomfortable with the obsessive aspect of the online experience. We recently did a little fax survey and our readers indicated an average of 62 calls per week by modem. Is this normal?

That said, I might note from personal experience that it is quite possible to develop an emotional attachment via electronic mail and I think a healthy one. Two people who are fairly facile with the written word can discuss things via the distance of e-mail that they might never discuss face-to-face and under the pressure of the logistics of going places and dealing with a very present presence of the other physical body. At this point, I would almost recommend that couples DO get to know each other in writing before pursuing a relationship. It can have an enormously positive effect.

But what Dollar Bill does with his private life is of only passing interest. I have followed him professionally from the days of BASIC in a baggy, and I find him alarmingly intelligent, visionary, and persistent quite beyond a fault to a virtue. I've become a big fan of Word, Excel, and yes, even Windows. He fails as often as the rest of us, but like the Terminator, he just keeps coming. I have met him briefly, and don't particularly aspire to any further personal contact as he's not particularly charming. But I observe all the bitching and moaning about his dominance and predatory tactics with a great deal of amusement. He wins by producing good software. And when he produces bad software, which he has with surprising regularity, he keeps after it until it becomes good software. For those who wish to compete with him, I would advise they do likewise and work late into the night doing it. That Mr. Gates has developed a life outside of Microsoft sans e-mail is the nearest thing to a charming aspect to him I've ever heard.

Jack Rickard

***

CORRECTION: YOUR TIME ARTICLE

Jack:

I have enjoyed your magazine off & on for my 3 year career as a SysOp, and consider it THE source for Information (although your constant omissions of RA and other quality shareware BBSes in favour of the commercial software sometimes really makes me mad. BTW: I recommend Terminate 1.51 to all my users as a term program.) Last May I subscribed to *Boardwatch*, and, if I can get the same price again (**$29**), I plan to re-subscribe when it runs out in July. Anywayz, on to business...

You incorrectly listed the UTC codes for the US Time Zones, the should be "-" instead of "+". The "+" means East of the Greenwich Meridian Time Zone. For Example, Central Standard Time in the US is UTC-06:00. While Central European Time is UTC+05:00 (I think.)

Also, could you please tell me of a Korean Internet provider, and how much they cost. I have a friend at Fort Hood who is shipping out in June to Korea for a year, and then off to Japan. (A Japanese Internet provider would be helpful too.)

PS: A direct ASAP reply to the third paragraph would be appreciated.

Cory Daehn, SysOp
The Dragon's Gate BBS
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(817) 983-5181 11AM to 6PM Mon thru Fri (CST)
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***

Cory:

Actually we looked at the plus and minus designator at some length. I can find about equal references to it both ways which in itself is a bit interesting. If we were confused, we are in vast company. I still don't know but I'll take your word for it.

Our omissions regarding Remote Access and other quality shareware programs make a lot of people mad. I myself started a BBS using Adam Hudson's QuickBBS, a $25 shareware program that was just superb in its day. But our readers are looking for solutions with support and much of the shareware community is ad hoc on this topic - some without even a good telephone number to contact any-

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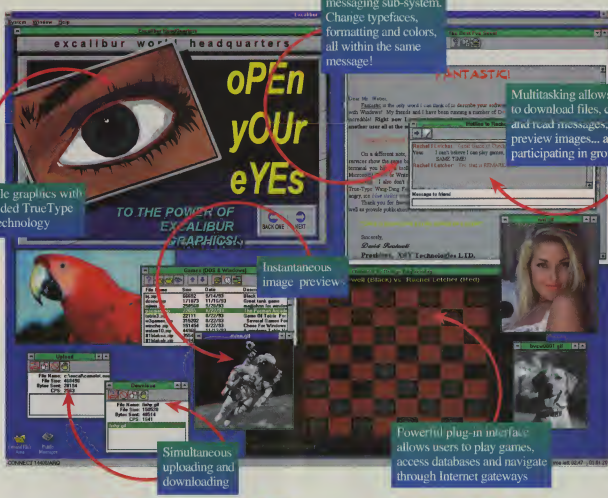

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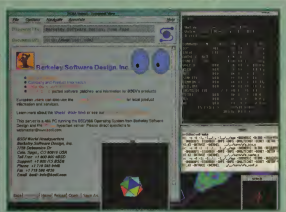

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thing remotely resembling an author or company. Additionally, the things we look to as "newsworthy" tend to be in multiline solutions, Internet connectivity, advanced graphical interfaces, and so forth and we're finding these more readily available in the more commercial developers. These aren't huge monolithic companies, most have a dozen employees or so, but they are living and breathing life into these products on a full-time basis and naturally get a little out in front on these topics. So that seems to be where the interest is.

As to Korea, we recently found a fascinating Web Site termed the Virtual Tourist at **http://wings.buffalo.edu/world/**. *This server provides a map of the world. You can then click on a region, like Asia, and finally a country, i.e. Korea, and be connected to a Web server there at Pohang University of Science and Technology, that shows maps of web sites in Korea. We think this would be an interesting way to home in on an Internet Service in Korea. The map itself is at* **http://centaur.postech.ac.kr** *and shows web servers in different Korean Cities. It is maintained by KiTae Kim (***korean@vicon.postech.ac.kr***). He may be able to shine some light on how to do what via net in Korea.*

Jack Rickard

◆◆◆

Mr. Rickard:

Well, what a surprise. As a simple employee of the telephone company, I find you attacking us. In your INTERNETICA diatribe, you intimate that the telephone company has for years bloated its personnel for the purpose of "stealing"(quotes mine) from an unsuspecting public. For your information, the telephone began as a monopoly, a REGULATED monopoly. For that reason and no other, the USA has the BEST telephone service in the world. The only reason people were let go was because of automation, not some sinister plot to cheat the public. Can you spell automation? I didn't think so.

As an employee(nonmanagement) of 23 years, I can say truthfully that the way the company has done business has changed radically. The services offered have mushroomed, even as the workforce has been reduced. Today, there are fewer employees per 1,000 customers than at any time in the history of the business. Show me any other business that has reduced the workforce while improving service and offering more services since it opened its doors! You can't! Certainly none to compare to the telephone company(including all the Bellcore companies).

I only wish you were back in the 1800's when A.G.Bell first started the business so you could not enjoy the fruits of his successors' labors. Remember 16 party lines? 8 party lines? 4 party lines? 2 party lines? Well, for your information, in Florida there are no more party lines because of the way the company has put millions of dollars into the copper plant the feeds telephone service to every home that wants service.

A pair of wires meeting certain critical standards of performance are required for each line. Four wires are required for ISDN service and they have more demanding standards that the TELEPHONE company developed. Who did the basic research necessary to produce these services? The man on the moon?

All the CATV companies need is a single coaxial cable to feed to the homes, from which a line carries the same signal, to a home, that other lines are carrying to every other home in the area. The telephone has to provide a noncoaxial, individual pair of wires from the office to each building for each number required by the customer.

On their basic rate and installation charges, NO customer is charged more than a fraction of what it actually costs to provide service to every home and office. The difference is made up by the pittance that is returned by the long distance providers for their use of the local service, office space and other services provided for hookup.

For years the company has had to balance the level of service against the costs of providing that service. The means of determining the level of service were worked out many years ago and are today employed by the states' public utility commissions to determine the rate of return and rates that the company may charge.

It is not your ignorance in these matters that I find repugnant, it is your lack interest in finding out the truth. I pity you!!!

I have a subscription to this magazine because I thought you were more fair-minded than that. I am sadly disillusioned, but will continue my subscription in the hopes you will come to your senses.

(PS: Your decision on the matter of OS/2 WARP is an example of someone who is too prejudiced to change his mind. WARP is better than WINDOZE! Cranky at times, but stable!)

Tomb@america.com

◆◆◆

Tomb:

The level of misinformation in your e-mail largely indicates the problem. However, I would note up front that there are many talented and intelligent people who work in telephone companies. You seem to be in need of some contact with some.

The "telephone company" did NOT at all start out as a regulated monopoly. This is simply not historically true. And my reference was to several telephone companies that stated publicly that facing a competitive environment forced them to plan reductions in force - in one specific case of some 17,000 employees. This was not a function of "automation" (I can probably spell it but it's always a guess of course), but as a result of transitioning from a regulated monopoly to a competitive environment. Since the regulated rates were based on costs, and since the lions share of costs in telephone companies are labor force, it follows pretty much that telephone companies were essentially hiring people and leasing them to the rate base at a markup. Facing a competitive environment, the salaries and benefits this was based on no longer worked - ergo a reduction in force. I didn't invent it, I just noted it in an article.

I am and have been critical of some aspects of our structure for delivering telephone service. I found the divestiture of 1984 a grand experiment. We took a single monolithic telephone company and in really a pretty interesting way broke it into two halves, and allowed them to operate in a single environment nationallly. The LD portion was setup as the "competitive" part of the experiment, while local telephone service remained as a "monopoly". And we've had eleven years to watch the result. On the LD side, prices have dropped 45% to make a long distance call. The LD companies initially shed employees, but use of long distance service in America has skyrocketed to the point that these companies, while operating with a leaner philosophy, now employ more people, and make more money, while delivering more service, to more people, than they did pre-divestiture. Who lost in this game? NOBODY. ATT is more profitable and enjoys greater revenues NOW as a LD carrier than it did before it shed ALL SEVEN REGIONAL BELL OPERATING COMPANIES. They still retain over 60% of telephone subscribers, bringing to question whether we have ever even actually ACHIEVED a truly competitive market, but it has been competitive enough that EVERYONE including the companies themselves have benefitted.

And now to the local side. Local RBOC and state PUC's have become so corrupt they are a national joke. Rates have gone UP nearly 30% for local telephone service. U.S. West was fined over $4 million last year because they simply didn't install ordered lines in any timely fashion. TRY THIS EXPERIMENT! Call Customer Service at ANY RBOC and talk to a service representative - about anything you like. Then call ANY long distance carrier and talk to THEIR customer service rep. It's not a thin line. It's a striking difference.

As to my personal affiliation with telephone companies there are a few OTHER things you might want to be aware of. My grandfather began investing in Bell stock in 1934 - the year of the Communications Act. And he did so until his death. I've been fascinated with telephones from the age of two. No, I've been OBSESSED with telephones from the age of two. The slightest ring and I had to be there just in case it happened to be a LONG DISTANCE call from ANOTHER CITY. I hung around telephone trucks just to be near them. I collect telephone sets. I started investing in AT&T myself at age 17, at the urging of my grandfather, and did so monthly and religiously right up to divestiture in 1984. For each share of AT&T I had amassed the hard way over the years, I was awarded a share in EACH of the RBOC AND I got to keep the original share in AT&T. I made

more money on that one stock in that one year than I ever have before or since in annual salary - including my current salary at Boardwatch Magazine. WHAT A COUNTRY. I should LOVE telephone companies. Actually I DO. But I am extremely critical of the lack of innovation and deployment of products by local telephone companies over the past eleven years. I think their behaviour has been poor - verging on a criminal act.

The USA has the best telephone service in the world for one reason - just not the reason you state. We're half the GNP of the world and our population enjoys a standard of living enabling them to afford to pay for the best telephone service in the world. Unfortunately, I think they've been getting a poor value for their money in recent years and they have about half the communications service they actually need to function at this point. The Internet is actually a grassroots revolt to build an alternate telephone service that will fill those needs. And today, I'm seeing signs universally of local RBOC and LD carriers charging to the fore to proclaim that they invented it and they are now going to sell it and in fact take it away by force from those who DID invent it.

The experiment of 1984 was profound and the answers are all in. But we seem to have some people in the U.S. Congress, feeding mightily from the trough of raw money provided by the telcos, who seem curiously unaware of the crystal clear outcome of the experiment. EVERYONE, including the telcos, benefits from competition. Regulated monopolies are inherently corrupt and inefficient. So Congress is simply unable to pass legislation enabling competition at all levels. Fortunately, my 1988 editorial calling for a system where anyone with a 1964 Chevy panel truck and a rusty pair of pliers can BE the telephone company is going to come to pass anyway. Strangely, you won't need a Chevy or the pliers to actually do it. Kevin Behrens' Aquila BBS in Chicago IS the phone company. Tom Jennings' The Little Garden in the Bay Area IS the telephone company. IBM IS the telephone company. Prodigy and CompuServe ARE the telephone company. And this should all be evident by the end of 1995. We may see some regulation and legislation out of Washington to try to STOP this if you can believe the wanton moronish stupidity of this, but they appear to want to try to do so. Ultimately, I think they'll fail.

Jack Rickard

•••

MOSAIC CONNECTION, ETC.

Jack,

You responded to a letter from Jesus Dacal who asked how to get ahold of Mosaic, etc. Making this stuff available for Freq from *Boardwatch* sounds like a super idea. Another source is books. For example "The Mosaic Handbook" from O'Reilly publishing includes disks with Mosaic included, and the Chameleon test drive program is included with other books.

BTW, I've lost the *Boardwatch* ftp address and I haven't had a chance to explore yet.

Cheers,

Harry
Hphilips@epix.net

•••

Harry:

FTP://boardwatch.com *will get you here. I recall when you could hardly find books on modems and John Quarterman's MATRIX was the only thing out there on the network. Today, I see about 150 books piled up on the floor of my office - we haven't time to even look at them. A wealth of books are available and some are quite good. Thanks for the note.*

Jack Rickard

•••

1995 BBS CONTEST

I've been looking for information regarding this year's BBS Contest, and just recently stumbled across a message leading me to believe that there isn't one this year. (The messaged referred to one written by you, but I couldn't locate it.) Is this true? If so, may I ask why? I write a newsletter and BBS List covering our local online community and I'm sure this would be of interest to our readers.

Bill Curnow
bcurnow@onramp.net

•••

Bill:

It is quite true. We didn't run the contest this year. It was expensive for us - about $30,000, and we received a lot of complaints about the rules (we only had one) the results (I didn't win) and the process (the other guy is buying it). The online community is in the throes of transition in many ways, we've been very busy publishing a magazine and preparing for ONE BBSCON this August, and we just decided not to do it this year. We may revive it in 1996, though probably in a seriously modified form.

Jack Rickard

•••

Jack,

How about asking for an E-mail address for the items in the Technology Update? You know we are much to lazy to actually call and wade through the dread voicemail.

Later...

Gary Hammer
ghammer@intergate.net

•••

Gary:

Not a bad idea. One of the features we're working very hard on vis a vis our Web Site is to make all links live. You will be able to "click" on an e-mail address and send them an e-mail message via your browser. I suspect that would work better for stories that had them. Unfortunately, many companies still aren't entirely with the program. We'll try.

Jack Rickard

•••

KUDOS

Jack,

My appreciation for the following:

1) Your editorial "The Security Paradox" in the April issue reflects my sentiments exactly. Paranoia doth runneth over to no purpose. Let's just relax because determined thievery is unstoppable and the risks in the everyday world away from Cyberspace are much more serious.

2) If you would convey my appreciation to Michael Erwin who leaves no e-mail address with his latest article. His short concise tutorials about publishing on the WEB have been invaluable. Reality Software has a WEB site under construction (**http://www.maine.com/reality/**) which hopefully should be on-line in May. Michael's clear instructions allowed me to start coding/tagging WEB pages almost immediately and provided most of what was needed for the design we have in mind.

Regards,

Ben Blumenberg
Reality Software
bennett@pipeline.com
http://www.maine.com/reality/

•••

Ben:

Very pleased my Security Paradox editorial was received in the spirit it was written. I don't precisely advocate "no security" for much the same reason that I do indeed lock my car - to keep honest people honest. But to carry the analogy further, I don't leave Boardwatch financial and tax records laying around in the locked car and think them safe because it is locked. Anyone who REALLY wants in the car can get there with a rock. And the current hysteria over security issues is productive only for those selling supposedly secure solutions - actually snake oil in most cases.

Michael Erwin's e-mail address is **mikee@access.mountain.net**. *We are very pleased with his column on HTML. It gets quite technical, and is a pain in the shwantz to typeset - or display on a web site for that matter. But we think there is a lot of interest in the real "how to" on this web stuff. It isn't hard, but you do have to learn it. And Erwin has really done a superb job of walking us through it. He will be presenting some class tutorials on the topic at ONE BBSCON this August in Tampa and we think they'll be very popular.*

Jack Rickard

•••

C-SPAN

Jack,

I noticed that you've started paying more attention to C-Span. Up here on the mountain we don't have cable and I haven't bothered with a dish, so I haven't followed that path.

Anyway, I thought that you might be interested in a two part article in *Investor's Business Daily*. It started on 2/27/95. The Title is "A CHANGING INFORMATION MARKET", and the subtitle is "Cybernews, Conservatism Supplanting Old Media". The idea is that people are tired of having people "tell them what it means". They're not paying for that anymore. They're paying for direct access and doing their own analysis (as in C-Span instead of CBS Evening News).

If you don't subscribe, I'd be happy to fax you a copy. I might even be talked into scanning it in and uploading it, if that would be helpful.

Ride that tiger!

John Carder

♦♦♦

John:

I think people DO want informed objective analysts to tell them what it means. Unfortunately, they aren't getting that. The general news media has become a political party of liberal persuasion that transparently and even gratuitously filters all news through the party line. We received calls from 14 journalists after the Oklahoma bombing and twelve were desperately trying to tie these militia groups to the bombing, and skin heads and white supremists to the militia groups - and searching for any actual facts that might help them achieve this connection - whether it was true or not. I was appalled.

People have been FORCED to go for direct access and try to sift through tons of stuff to find out what is really going on because the news media in this country have simply failed to deliver it. Were there credible sources of analysis they could trust to select pertinent news and present it in meaningful ways, and the key here is TRUST, let me assure you they would rather get it that way. But it's just very nearly unavailable at this point.

Jack Rickard

♦♦♦

KEVIN MITNICK

Dear Jack,

Each time I write I promise myself never again but your provocative statements overcome my resolve. Your April essay on the open Internet, correctly observes that valid credit numbers are ubiquitous, but few are stolen. You then say credit card fraud which costs two billion per annum causes high credit card interest rates. You grumble the honest many pay for the dishonest few.

I don't know where you got the fraud number (a banker probably) but unless you know the banks' net, you can't judge the equity of the rate. If banks net fifty billion (I don't know the figure but I suspect it's substantial), fifteen percent is excessive. My point is that credit card interest rates most likely are the product of garden variety greed.

Which brings us to Kevin Mitnick. Thirty years in the slam is a draconian penalty for an ego trip, but Mitnick's real crime is that he makes the powers that be nervous. Could he discover the cost of manufacturing an automobile or the amount banks make from credit cards?

You betcha. How would you feel were you presented with unassailable evidence that credit card interest rates are unconscionable by any measure other than maximizing profit? For this reason alone we should start a Free Kevin Mitnick movement. (It has a certain ring) Unfortunately, that won't happen. What will happen is Mitnick will be sacrificed so that free market libertarians can maintain their illusions.

Best,

Edkunin@delphi.com

♦♦♦

Ed:

The latest information indicates Mitnick may go free. Apparently the FBI again didn't bother with that awful and inconvenient search warrant thing. I think the credit card interest is a function of liberal unsecured lending. The result is that a lot of it doesn't get paid, and those who do pay cover the bet. Fraud is part of that, but the bulk is just bad debt. But they are truly a convenience. And at this point you can trim the loss by simply paying them off each month and not carrying a balance. The real weakness of the system is that only a select minority can ACCEPT transactions, while almost anyone can be a buyer. And fraud is the main driver to that situation. Which was why I mentioned it. We can't really use credit cards as a functional online currency because most of us can't accept it as money.

Jack Rickard

♦♦♦

INTERNET COVERAGE

Jello Jack,

Not long after I bought my first modem many years ago, I began to hope that one day the world, in all its reality, would be connected. Through local BBS's I discovered Fidonet. It was great!! Still it fell a little short. About the same time, I started hearing of Boardwatch. After many months of searching, I found it. I was hooked with the first issue.

Shortly after, I started my own BBS. It was expensive to operate, but the goods far outnumbered the bads. I continued to read Boardwatch, and searched a bundle of other mag's for Mr. Dvorak's columns.

A couple years ago when your coverage of the internet started to heat up, I wondered a little about what it might be like. Now at whatever its present state is, it is by far the closest thing to my hopes soon after buying my first modem. It is amazing, if nothing else, and your magazine was the first real contact I had with all of this.

Now to the point of my letter. I've seen a lot of people complaining about your coverage of the internet, and less space covering the local BBS's. This troubles me for two reasons:

1. The internet to date is the best international connection that anyone could invest in. It is the connection that everyone has wanted for a long time. It should be covered by whomever can do the job best. The best online mag is without doubt Boardwatch.

2. I had hoped that my peers were more capable of accepting change. It is difficult, after putting years into developing a BBS, to watch the industry take a completly different turn. Still we all should be looking for ways to take advantage of what is going on, rather than complaining because we were somewhat wrong in our own expectations.

If there ever was a need for the technical experience that Sysops have, it is now. The man, or woman, that finds a way to provide WWW/gopher service from a local BBS (without a T-1), will no doubt be sitting on a gold mine. It is not impossible, and the local sysop would be more capable of offering the services that the public needs on an individual basis.

I would like to thank *Boardwatch* for all its information. I would also like to ask the doubters to wake up, and start looking for solutions. The world is waiting...

Robert Denton
Eine@ix.netcom.com

♦♦♦

Robert:

I couldn't agree more. Actually, I view our coverage of the Internet as an accurate reflection of the evolution of an online world. We first started to cover it in April, 1989, and today it is the bulk of the action. I think that progression roughly tracks the pertinence of the topic to most people online. There are always those who wish the world would stand still a bit for them to get a bridle on it. We heard from ASCII purists when ANSI graphics complicated life for them. It is one of the chilly aspects of life in the universe that there are winners and losers, and those who celebrate, and those who whine.

I think there is a certain level of thinking that if Boardwatch would just cover it less it would be less important. They grossly misun-

derstand the connection between horse and cart. We can hopefully help illuminate, describe, clarify, and interpret what is happening in the online community and I like to think we can do so better than any other publication on the planet. We probably have a better record of predicting what changes will come from new technologies than any other publication in the field. But understand, we don't make it happen. We watch it happen - ergo the title of the publication. And we let you watch too. In some small way, by focusing the lens on what matters, and praising innovators such as yourself with better information, we can accelerate the pace to some nth franction of a degree. But we don't cause anything to happen. We report on it and try to interpret it. I understand our place in the universe. But I do detect a lot of wishful thinking from a tiny segment of our readership that if we just adjusted our page count, it would adjust the world they live in. It won't. Not by a hair.

Jack Rickard

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ISP

Dear Mr. Rickard,

I was wondering today, as I pondered how I could get full access to the net, who do the Internet Service Providers connect to with their T1 lines? Sure you go ahead and lease your T1 line from your local telco, then what? Do you then need to pay a provider to connect you to the internet?

Eric Conkle
Inet:CONKLE_E@DENISON.EDU
Cserve:76117,3116

•••

Eric:

*There are several components to a T1 connection. Generally there are two main ones: a port charge from the Internet Service Provider, and a leased line charge to REACH the port. The first varies widely based on the Internet Service Provider, but we are seeing T1 ports available for **$500** to **$1200** per month quite commonly and prices appear to be in free fall. What this gets you is a connection on the provider end to their LAN, domain name service and registration of YOUR domain and class C Internet address, usually USENET News service, perhaps some e-mail services, etc. You also have to pay the local telephone company (usually) a charge for a leased DS1 telephone line from your office or premises to the Internet Service Provider. This is quite variable, and does in almost all cases depend on distance. I think we pay about **$619** per month for such a line which spans about 30 miles or so. This charge is also variable based on whether you pay it month to month, or have a long term contract.*

*Some Internet Service Providers do the whole thing for you - have the leased line installed, pay the leased line charges to the telephone company, and provide the port, all for one monthly fee to you. This is a bit easier. But you haven't done away with any of the costs - just simplified the billing. At each end of the T1 line is a CSU/DSU - a T1 modem is how we think of it. They run about **$1295** each. And you need a router on your end generally speaking. CISCO 2500's work well and cost about **$2500**.*

The Internet Service Providers connect to other Internet services. Often they'll have their own backbone that ultimately connects with other backbones. See our editorial this month on the change in architecture from the NSFNet backbone to a system of three priority Network Access Points where all Internet service providers interconnect - thus forming an Internet.

Jack Rickard

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PC REAL TIME CLOCK

Dear Jack,

I was introduced to your magazine this week by our data processing manager, who is an avid reader and subscriber of boardwatch. He also showed me the Internet for the first time. Being a Stones Fan I had him take us right to the Rolling Stones Home Page on the World Wide Web. Instant Satisfaction!

First let me say that Boardwatch is enjoyable to read, and that I disagree with some people's thoughts that you're moving towards the internet too much. Of course you should cover both internet and BBS. If it's what you know and what you like then do it.

Secondly, I appreciate your "Time After Time" article (5/95). My company, B&B Electronics, has a new proudct that I feel would be of interest to you and your readers ... the PC Real Time Clock. Though it's not the NIST time server in Boulder, it does significantly increase the accuracy of your PC's clock. I have attached a copy of the news release (word 6.0) and would be happy to send you this PC card if you have an interest in checking it out.

Anyway, thanks for the attention given to the time issue. I like your writing style and the topics you cover. I'm sure I'll be reading Boardwatch again.

Sincerely,

Ryan Zuk
B&B Electronics
rzuk@bb-elec.com
(815)434-0846
P.O. Box 1040
Ottawa, IL 61350

•••

Ryan:

Pleased to have you with us. Our mission is to cover anything online that moves and looks interesting. Your card sounds like it qualifies.

Jack Rickard

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TIME ZONES

Hello again. My April issue arrived three days after the March issue - what a treat! I'd love to get *Boardwatch* twice a week, every week! April's issue has to be the best ever. The article on 300:1 compression was a bombshell - it should have made the cover. I tried some the Telnet-able BBS's from your list and had my opinion confirmed about most BBS's. They are obsessed with gathering information about their users. Most BBS's I call ask info about the user for security reasons, but now they ask you to fill out increasingly long surveys before you even get to see the opening screen. This is the point where I hang up. It is possible for a BBS to allow a user to look around first and then, if the user likes what they see, they can fill out all that important info. This is why the Internet is so nice: FTP, Telnet, WWW - boom, you're there, looking around.

I do have one complaint though. In your article "Time After Time", you neglected to mention that the idea of time zones came from a Canadian, Sir Stanford Fleming. Fleming came up with the idea while building this nations first coast-to-coast railway. But, like most inventors and creators up here, they had to go south to get recognition. We're not that big a country and we live in the constant shadow of the US, so it's nice to get some mention from time to time.

—
Dean Brown
Dahbmusc@passport.ca

•••

Dean:

Bulletin boards got there over the course of about 18 years. I recall when you called them and it worked pretty much like WWW does today. I think you're headed for a change. I would look for WWW sites to increasingly want some basic information about who makes the connection and why. Even if they provide the service for free, they naturally enough want to find out who accesses it and why they do so. It seems little enough to ask for services that are extremely inexpensive or free.

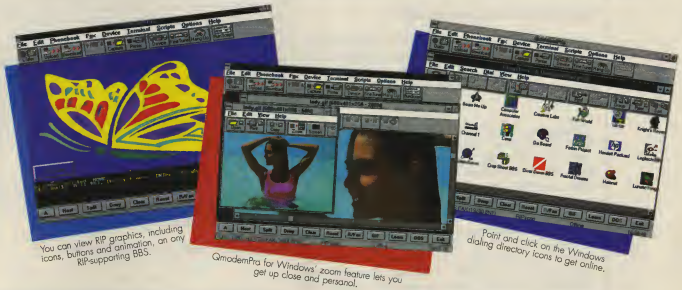
That said, some of the bulletin boards do get entirely carried away with the survey stuff. I was actually on a DLX BBS at one point that was configured so that you did not have sufficient time on the service to actually complete the registration process. I've always wondered what the guy who ran it thought his reason for failure was precisely.

Jack Rickard

•••

WARNING!

This Product Contains Material Of An Extremely Graphic Nature.



You can view RIP graphics, including icons, buttons and animation, on any RIP-supporting BBS.

QmodemPro for Windows' zoom feature lets you get up close and personal.

Point and click on the Windows dialing directory icons to get online.

QmodemPro for Windows delivers more advanced graphic features than any other communications software.

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Our award-winning QmodemPro for Windows communications software has all the cool graphics features you've been looking for. It's "RIP" ready, so you can plug into the thousands of BBS systems offering graphics and full mouse support online.

QmodemPro for Windows was the first commercially available product in the industry to support RIPscrip. QmodemPro for Windows also has a built-in GIF viewer that lets you view GIF graphics files as you download them. You can even ZOOM in for details. And QmodemPro has Windows icons for dialing directories, a true Windows phonebook. All you have to do to get online is double click on an icon.

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But graphics aren't the only reason Sysops around the world recommend QmodemPro for Windows. They like it because it's powerful and easy to use, and can launch both data and fax calls. What they like most, though, is the fact that QmodemPro for Windows is packed with performance features that have been specifically requested by BBS callers.

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TELEBITS

TECHNOLOGY UPDATES

By Jim Thompson
Western News Service

Pacific Bell has become the first Regional Bell company to begin offering a full range of Internet services to business customers. The company has also developed marketing relationships with Netscape Communications Corp., Sun Microsystems Computer Co. and Cisco Systems Inc.

Pacific Bell's Internet Services include:

• Internet Access: Basic Internet access services, including full, unrestricted connection to the Internet; domain name registration, e-mail and news services and back up domain name, e-mail and news services.

• Transport: A wide array of high-speed dedicated Pacific Bell network-based digital connections to the Internet, including Pacific Bell FasTrak Frame Relay, SMDS (Switched Multimegabit Data Service), DS1 and ATM (Asynchronous Transfer Mode) Cell Relay data transport services.

• Hardware: A full line of routers and Internet-ready server hardware from Cisco Systems Inc. and Sun Microsystems Computer Co. Through selected Sun resellers, Sun's Netra Internet Servers and FireWall-1 security software will be available to Pacific Bell Internet Services customers.

Also available are Netscape Navigator from Netscape Communications Corp., and firewall security software from Sun Microsystems Computer Co. to prevent unauthorized access to internal networks via the Internet.

Pacific Bell also plans to offer high speed dial up and Integrated Services Digital Network (ISDN) access to Internet services at the beginning of the fourth quarter of 1995 in the San Francisco Bay Area, Los Angeles and Orange County, San Diego and Sacramento service areas. Switched access services will expand to other parts of California in 1996.

Contact: Pacific Bell Internet Services, **(800)708-4638, e-mail:**`//internet-info@pacbell.com`

◆ ◆ ◆

ADTRAN, Inc. has released ISU Express, which is essentially an "ISDN modem", combining voice and data transmission at up to 64 Kbps and data-only at rates of up to 128 Kbps.

The full-featured version of the ISU Express includes a Plain Old Telephone Service (POTS) interface option and an integrated modem. The POTS interface option will allow the connection of a

computer as well as a telephone and/or fax machine to a single ISDN line. While a phone or fax call is in progress, data is transferred at a rate of 64 Kbps. If there is no telephone call in progress, data can be sent at rates of up to 128 Kbps. The Express will also be available with an integrated V.32bis/V.42bis modem option for situations when the user is transmitting to a receiver that is not equipped with ISDN service. This allows the ISU to communicate not only with ISDN or switched 56 devices, but also with analog modems.

Four versions of the unit are available: data only for **$640**, POTS interface version for **$790**, integrated modem version for **$990**, and POTS interface with an integrated modem for **$1,140**.

Contact: ADTRAN. Inc.: **(800)827-0807**

◆ ◆ ◆

Rockwell Network Systems has added Instant LAN Dial capabilities to the NetHopper family of remote-access products, to provide users with a means of establishing an Internet account. The application works in conjunction with Performance Systems International's (PSINet's) turnkey Instant LAN Dial service. Instant LAN Dial connects a local-area network (LAN) and the Internet via a dial-up link and electronically configures a customer's Internet account with minimal user intervention. The application allows customers to register their domain name, network IP address and other important IP hosts. This on-line process completely bypasses normal registration processes, which can take as long as 30 days.

Once registration to PSINet is complete, the registration server automatically configures the NetHopper router and the customer is connected to the Internet. According to the company, "The process is expected to take no more than 20 minutes."

Contact: Rockwell Network Systems, **(800)262-8023**

◆ ◆ ◆

Dayna Communications, Inc. has announced a new version of its PCMCIA mobile access server which supports TCP/IP, IPX, and PPP protocols. The DaynaLINK Mobile Access Server was among the first server system to provide access to local area network services for remote clients through the use of PCMCIA data/FAX with support for AppleTalk clients. The new multi-protocol version opens the same capabilities to Windows and DOS users.

DaynaLINK 2.0 includes a DOS and Windows client which provides access to IP and IPX protocols via PPP. This allows remote clients to access Internet, UNIX-based application servers, and Novell file and print servers. DaynaLINK 2.0 also includes a gateway for access to IP through ARAP (Apple Remote Access Protocol). DaynaLINK's new DOS and Windows client provides both remote node and remote control functionality, and also supports the built-in remote access client of Windows 95.

DaynaLINK 2.0 has a U.S. suggested retail price of **$3,295**. The DaynaLINK 2.0 package includes a rack-mountable enclosure, DaynaLINK console software for Windows and Macintosh, domestic or international power cord, rack mounting brackets, and a list of supported PCMCIA 14.4 and 28.8 data/fax modem cards for use in the U.S. Current owners of DaynaLINK for ARA who wish to upgrade the server can purchase an upgrade kit which includes updated version 2.0 software, and a PCMCIA ROM card for **$595**.

Contact: Dayna Communications, Inc., **(801)269-7200**

◆ ◆ ◆

Surf Communications recently launched ExpressPak(TM), the "first complete ISDN Internet Kit for Windows." ExpressPak integrates everything required to connect a Windows PC to the Internet at up to 128 Kbps, and takes only 30 minutes to install. The package includes: ISDN ISA card with NT-1 that supports 2 B channels, TCP/IP connectivity software, Netscape Navigator for the WWW and Eudora mail program, ISDN phone service ordering and provisioning, ISDN Internet account on Expressway, personal WWW page on Expressway's high speed server, personal FTP space, unlimited technical support.

Cost: **$399**. Surf Communications, **(800)499-1517**

◆ ◆ ◆

InterMind(TM) Corp. has released EnCompass, a one-step solution to installing and configuring Internet applications on a Windows(TM) computer. EnCompass automates the entire process of setting up a Windows computer for a fully graphical connection to the Internet.

Installed by EnCompass are: the Trumpet Winsock TCP/IP "stack" and SLIP/PPP dialer (required by each of the other applications), the Netscape Navigator(TM) World Wide Web browser, Pegasus E-Mail, the News Xpress newsreader, EWAN terminal emulation software, WS_FTP file transfer software, WSArchie search software, the WSGopher gopher client, and WSIRC chat software. All of these are "freeware" or "shareware" programs available on the Internet for noncommercial distribution.

EnCompass is distributed at no cost under an arrangement between InterMind and SandyBeach. EnCompass currently supports the following national or regional Internet service providers (ISPs): Netcom, CRL, Kaiwan, Digex, The World, CCNet, and NWNexus. Future releases of EnCompass will support additional ISPs. Providers may contact SandyBeach to learn how their service can be supported by EnCompass at minimal cost. Send e-mail inquiries to **sandybeach@med.com**.

For information via e-mail about both the single-user and host versions of TIA, send a blank message to **tia-info@marketplace.com**.

Contact: InterMind Corp., **(206)545-7565**

[*Jim Thompson is Managing Editor of Western News Service in Los Angeles, California. He also manages the Marlboro Racing News BBS. CompuServe: 72777,2677, MCI Mail:* **321-4127**, *INTERNET:* **jim.thompson@wnsnews.com**]◆

Z/MAX ABSORBED BY MMB DEVELOPMENT

MMB Development Corp., publisher of TEAMate UNIX BBS and Internet server software, has acquired the assets of Z/Max Computer Solutions, Inc. Z/Max's XChange UNIX BBS software will no longer be sold as a separate product. But the estimated 700 to 900 owners of XChange will continue to receive technical support for the duration of their maintenance contracts. The ZMax technical support team is still intact and can be reached at the usual voice number: **(315)635-1882**. Tech support will be turned over to a third-party company in about five months. MMB does not plan to support or continue development of XChange, though some of the program's code may find its way into MMB products.

MMB is offering XChange owners a one-time opportunity to convert to TEAMate at bargain prices. First, take 50% off TEAMate's regular retail pricing, then subtract from that price the total amount previously spent on XChange (the cost of the original

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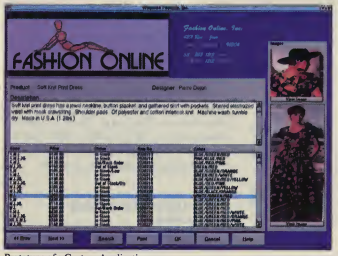

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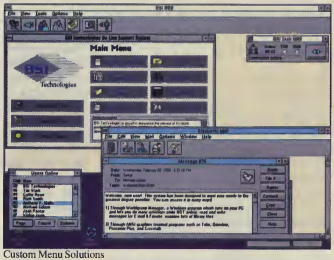
Service Contracts:
Monthly and yearly support contracts are offered --- including 24 hour support service --- to guarantee access to technical answers whenever you need them. We also have Help Desk Support for your callers, to eliminate hiring a large staff for your location.



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license plus any upgrades purchased). The offer is valid only for conversion to a TEAMate license of the same user-limit as one's XChange license — no trading in a 4-line XChange for a 255-line TEAMate package. MMB also offers Software Upgrade, Maintenance and Support Contracts for TEAMate owners, at 15% of the regular license price (not the special disounted price described above). A five-day TEAMate training course in Manhattan Beach, CA, is offered for **$1,800**.

Z/Max and MMB competed in the UNIX BBS market for five years, and MMB won some time ago. Z/Max "just ran out of horsepower" with which to continue developing XChange, according to Bob Baskerville of MMB Development. "There is no doubt in my mind today that MMB offers the best commercially available product in the UNIX BBS marketplace," says Baskerville. "It provides all of the wanted features, the client/server architecture and the Client Graphical User Interfaces (for Windows, Mac, etc.) that are required in a commercial BBS product."

Contact: MMB Development Corp., **(800)832-6022** or **(310)318-1322** voice; **(310)318-2162** fax; **e-mail://bob@teamate.mmb.com**.

HERE'S MUD IN YOUR BBS

Fantasy role-playing games known as MUDs (Multi-User Dimensions) originated on the Internet and are very popular telnet destinations. Continuum Software brought MUDs to the DOS-based BBS world in 1994, when it launched MUD Magica at ONE BBSCON. "Before MUD Magica," says spokesperson Eric Olsen, "You needed to not only be a system administrator of an Internet site, but you needed a great deal of technical knowledge" to run a MUD. Now, all you need is a DOOR.SYS-compatible BBS or a DOS multitasker such as Desqview or Windows, and Continuum's MUD Magica.

Version 2.0 of MUD Magica incorporates RIPscrip 2.0 by Telegrafix Corp. Sysops and callers can now add JPEG images of monsters, places, and non-player characters to their MUDs. Sound files are also supported, enabling creation of a virtual reality experience. A windowed ANSI interface and a straight-text interface remain available for traditional role-players and the technology-deprived.

The folks at Continuum Software "would like to help build a new industry based on MUDding that will allow people to make a real living inventing and providing imaginary worlds for other people to live in." They admit that right now there is not much money in being a "fantasist" full time, but they hope to add revenues to sysops' coffers by offering an easily developed and maintained MUD solution, including turnkey "prefabricated worlds," MUDs designed by other MUDders and sold as the basis for your own fantasy island.

Prices for MUD Magica start at **$99** for a four-line system and range up to **$299** for unlimited line counts. Demo versions can be downloaded from CompuServe, America Online, and numerous BBSs, including Software Creations, home of Continuum Software.

Contact: Continuum Software, 916 Underwood Ave. S. E., Atlanta GA 30316. **(404)635-0931** voice; **(508) 365-9352** (Software Creations BBS); **e-mail://eolsen@free.org**.

IMAGINATION NETWORK DROPS RATES

The ImagiNation Network, Inc., AT&T's online entertainment subsidiary, announced two additional monthly pricing plans and an overall reduction in night/weekend hourly charges. The rate schedule now includes five monthly plans: 5 hours/**$9.95**, 10 hours/**$19.95**, 15 hours/**$29.95**, 25 hours/**$49.95**, and 50 hours/**$99.95**. Previously, the 5 and 10 hour options were not available, though the average user spends about 10 hours per month on the service. Prices for additional night/weekend hours start at **$2.95**/hour and drop to **$1.95**/hour as the size of the base plan increases. Previously, all additional hours were billed at **$3.50**. The rate is **$6.00**/hour during business hours for all base plans. A spokesperson for the company said the service now entertains over 60,000 U. S. customers.

Contact: The ImagiNation Network: **(800)462-4461** or **(415)548-2500**.

DIRECPC: 400 KBPS WEB BY SATELLITE

Hughes Network Systems (HNS), a major player in satellite networks, announced that its DirecPC high-speed data communications service is available as of April 10. The product uses small-dish technology and satellite transmission to deliver "digital objects" such as software, multimedia and video, Internet documents, news and other information directly to desktop PCs.

The benefits of DirecPC lie in data-broadcasting applications and much faster retrieval of large files than is possible over dialup connections. Organizations will be able to rapidly broadcast training videos, digitized sound, massive documents and software packages to multiple offices. DirecPC will "turbocharge the Internet" by boosting data delivery speeds to 400 Kbps, over 27 times faster than a typical 14,400 bps modem connection. Microsoft Office, for example, occupies about 35 Mbytes and would take 6.75 hours to download at 14.4 Kbps; DirecPC would do the job in about 14.5 minutes.

DirecPC uses a rather cunning trick to provide interactive access to the Internet via IP connections. The DirecPC Turbo Internet software redirects your connection request to HNS's operations center, where your IP address and your actual destination address are captured. HNS then makes the rest of the connection to your destination at T1 speeds. The destination site responds to HNS with a ftp file, a graphics-bloated Web page, or whatever you requested. This data is uploaded to the satellite and downloaded at 400 Kbps to your dish. According to HNS, it's all transparent to the user. The net result is more speed, something we can all use.

The service piles content on top of breathtaking speed. Subscriptions include CNN "Headline News" broadcasts, a Reuters NewMedia newswheel, Data Broadcasting Corp.'s stock ticker tape, and sports information from SportsTicker.

Subscribers need to buy a **$1,295** DirecPC Access Kit, which includes a 24-inch satellite receiver, a 16-bit ISA adapter card, and Windows-based software. The Basic Access subscription costs **$15.95** per month and includes the aforementioned news, sports, and stock services, plus 30 Mbytes of "Turbo Internet" usage per month. HNS also offers a "Turbo Internet Surfer Bundle" subscription, which includes 130 Mbytes of monthly usage for **$40** per month. Additional megabytes of monthly usage cost **$0.80** each during business hours and **$0.60** during off-peak hours.

Contact: Hughes Network Systems, **(800)-DIRECPC** or **(301)428-7113**.

MOTOROLA & GALACTICOMM OFFER SYSOP DISCOUNTS

Motorola Transmission Products Division, maker of high-end modems and ISDN terminal adapters (TAs), has teamed up with Galacticomm, Inc., to offer qualified sysops and Internet Access Providers (IAPs) one-stop shopping and a 40% discount off Motorola's regular prices. Qualifications include having been in continuous operation of a BBS, Internet access site, or World Wide Web site for at least six months, and having purchased one's software from Galacticomm or another vendor approved by Motorola.

The program offers the Power Series 28.8 Kbps modem, designed for the retail market, for **$225** versus the list price of **$375**. The Mac model is discounted to **$237** (list price: **$395**), and the commercial/industrial grade v.3400 modem sells for **$537** (list price: **$895**). Two ISDN terminal adapters, the TA210 and UTA220, are discounted 40% to **$297** and **$537** respectively.

"The teaming of Galacticomm and Motorola as market leaders will give Internet access providers, Web site providers and BBS sysops the best of both worlds in hardware and software," said Dave McNamara, director of product development, Motorola Transmission Products. Extensive compability testing between the two companies' products should help ensure customer satisfaction. Combining Motorola's modems and TAs with Galacticomm's BBS, Internet Connectivity, and WorldGroup WWW software products yields an attractive option for the online service provider who wants it all, and wants it all to work together.

Contact: Galacticomm, Inc.: **(800)328-1128** or **(305)583-5990** voice; **(305) 583-7808** BBS; **e-mail://sales @gcomm.com**.

PLAY WWW RIDDLER TO WIN CASH

Interactive Imaginations, Inc., of New York launched Riddler, the first interactive gaming system on the Internet to pay cash prizes. Riddler combines elements of trivia, scavenger hunts, and an online road rally. Each game begins with the posting of a riddle and a prize of **$500** for the first person who solves it. Clues are earned through trivia games and by finding secret keywords hidden on other Web pages.

Players seeking clues first select a trivia category from Riddler's home page. The selection takes the player to a sponsor's Web page, where four rounds of trivia questions in the selected category await. Correctly answering a trivia question yields a hint that points the player to yet another Web page somewhere in cyberspace, where a keyword is hidden. Then it's back to Riddler to exchange the keyword for a clue to the riddle.

The **$500** initial prize is increased by **$100** every day for the next five days that the riddle goes unsolved. On the seventh day, the prize jumps by another **$500**, for a total of **$1,500**. If the riddle remains unsolved for a week, a new riddle is posted and the unclaimed prize money becomes the opening prize in the next round.

The Riddler home page offers two additional cash-prize contests. Crispy Challenge is a daily puzzle paying **$100**. The Tortoise and the Hare is an ongoing contest in which the first player to accumulate 25,000 points in the Riddler and Crispy Challenge games wins **$1,000**.

Players must complete a registration form and attest that they are at least 18 years of age. Riddler is sponsor-supported and there are no registration, membership or hourly charges.

Contact: Interactive Imaginations, **http://www.riddler.com**, **(212) 779-7240** voice; **e-mail://stracom @ingress.com**

WEB BROWSERS TO INCLUDE AUDIO

Progressive Networks has signed agreements to include its RealAudio Player Internet audio-on-demand delivery system in web browsers made by Microsoft, Spry, and Spyglass. Five website content providers — HotWired, Hollywood Online, Metaverse, GNN and RadioNet/Human Factor — will implement RealAudio technology on their servers.

RealAudio is a client/server software system that allows online users equipped with sound cards and voice-grade phone lines to browse, select, and play back audio multimedia objects in real time. This compares rather favorably to the conventional way of obtaining audio online; it can take five times as long to download a sound file as it does to play the program. The Windows or UNIX server software also enables "audio multimedia streams," digital audio streams that match graphical images to certain sounds. Thus, if you click a button to hit a baseball in an online game, the sound of the bat hitting the ball will be synchronized with the animated image of the batter.

The client software, RealAudio Player, runs on Windows, Mac, and certain UNIX platforms. It can be installed in any Web browser and is distributed free of charge; Web-sters can download it from RealAudio's home page below. The Player's features are similar to an audio CD-ROM's controls: start, stop, and pause control of any audio stream; ability to jump to any part of an audio program ("random access," we computer geeks would say), and the ability to queue up a playlist of several RealAudio clips to be played in order while you're doing something else.

The RealAudio Studio software is a development platform for creating RealAudio Web pages and other online applications. The standard version provides encoders for all standard audio formats including WAVE, AIFF and AU; editing tools for adding information such as title, author, copyright or captions to an audio stream; a toolkit for customizing the Player front-end. The professional version of Studio adds editing components that allow modification, enhancement, and filtering of audio files, as well as tools for automated recording and encoding.

Contact: Progressive Networks, **(206)447-0567** voice; **(206)223-8221** fax, or **http://www.realaudio.com**.

"NIELSEN RATINGS" FOR WEBSITES

Advertising on the Web is a firmly established and booming industry. But advertising buyers want to know how many people are reading their ads, and they don't want to take the website administrator's word for it. The Neilsen ratings solve this problem of independent audience measurement for television. Now Digital Planet Corp. hopes to do the same for Web advertisement buyers and sellers.

"For any new medium to grow, there has to be a universally accepted standard for determining what works and what doesn't," says Paul Grand, CEO of Digital Planet. "For television, it's the Nielsens. For magazines and newspapers, it's paid circulation. NetCount is

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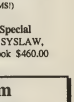

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The NetCount service relies on log files transmitted in encrypted files from participating websites. Software sniffs the logs for signs of tampering or fraudulent activity and alerts NetCount staff to any potential problems. Analysis and report generation are performed on NetCount's computers. Web traffic is broken down by website, subject, page, day and hour. NetCount also monitors traffic between specified websites, so an advertiser can learn which ads on other websites are attracting surfers to his own home page.

"This service is being introduced at precisely the moment when it is most needed," according to Anthony Mason, senior vice-president/group director-new technologies for Young & Rubicam. "We are confident it will become a fundamental decision-making tool for website creators and administrators alike."

Contact: Digital Planet, **(310)287-3636** voice; **http://www.digiplanet.com**; **e-mail://pgrand@digiplanet.com**.

ALTIMEDIA OFFERS INTERNET CLASSIFIEDS

Altimedia Inc., a Fairfax VA communications consulting company, launched an eminently usable Web-based classified-ad and personal homepage service in April. A for-sale ad costs **$50** for two months and may include up to 100 words; for another **$20**, Altimedia will scan a photo and attach the image to your ad. Employment ads of up to 500 words cost **$50** for one month, plus **$20** for a "blind box" to hold responses for later delivery. Your own personal or small-business homepage can be had for a setup fee of **$35** plus **$35** per month, and may include up to 5 photos plus 500 words of copy.

Contact: Altimedia Inc.: **(800)524-7272** or **(703)648-0300** voice; **http://ad.wwmedia.com**; **e-mail://info@mail.wwmedia.com**.

SOFTARC HITS TOP 5 IN LAN E-MAIL

SoftArc Inc., maker of FirstClass group communication software, is now the number four provider of LAN-based e-mail worldwide, according to surveys conducted by Electronic Mail & Messaging Systems (EMMS) and Electronic Messaging News. SoftArc is credited with over 3 million users of its FirstClass product and a 10.1 per cent market share.

They did it the old-fashioned way, too. "Being recognized as one of the top five e-mail vendors is particularly gratifying because our numbers are truly substantiated," stated Steven Asbury, president of SoftArc. "Unlike several of our competitors, we've actually sold our three million licenses — not given them away in office suite products, or counted them from acquisitions." What a novel approach to measuring market share!

Contact: SoftArc Inc.: Dallas Kachan, **(905)415-7000** voice, **e-mail://dallas@softarc.com**

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CE Software QuickMail	1,700,000	5.7%
Lotus Notes	1,350,000	4.5%
Other	4,360,000	14.6%

Source: EMMS

NETCOM GROWS, RELEASES NETCRUISER V1.6

NETCOM Online Communications Services is rapidly expanding its customer support staff and Points Of Presence (POPs) to meet hyperbolic demand for its Internet connectivity services. On April 10, the company also released version 1.6 of its popular NetCruiser software, with some new features that bode well for Netcom's existing and new customers.

New features in v1.6 include Winsock compliance, allowing the use of third-party Winsock clients, a smart move. NetCruisers are no longer stuck with one suite of clients, and it will be much easier to woo new customers if they can keep their favorite client programs. Version 1.6 also adds support for sound files (**.au**, **.wav** and **.mid** formats). File attachments in e-mail are now possible using MIME Base 64 encoding. Users can now print files directly from the Web browser, which also supports telnet, gopher and mailto URLs for the first time in v1.6.

As NETCOM's customer base exploded from 72,000 in December, 1994, to over 100,000 in February, 1995, customer service became a rather sore point with those needing it. The company recently hired a new customer support manager, Ms. Eva Kwong, and sent her on a hiring spree. NETCOM now employs over 50 customer support representatives and is adding more each month. The company's software design engineers put in tours of duty on the support lines, an enlightening experience for the engineers and one that should be mandatory at every software development house.

Network capacity is also being expanded to meet demand. NETCOM had 51 POPs as of December 31, 1994, and is adding more at the rate of 10 or more per month. All new POPs sport v.34 modems.

Contact: NETCOM Online Communications: **(408)983-5950** or **(800)353-6600** voice, **(408)241-9145** fax; **e-mail://glee@netcom.com**.

VENTANA BOOKS INCLUDE WEB SITE, SOFTWARE

Ventana Press published a winner in its ***Mosaic Quick Tour*** book by Gareth Branwyn and Sean Carton. It's a very readable and informative guide to understanding the Web, along with hands-on instructions for installing and using NCSA Mosaic. The book includes a section detailing popular Web sites. Now Ventana follows it up with a special edition that includes a custom version of Spyglass Inc.'s Enhanced Mosaic 2.0 Web browser and access to Ventana's own Web site. Readers can browse their way through an online version of the book, click on a site that interests them and surf directly to it.

Another Ventana title, ***Walking the World Wide Web*** by Shannon R. Turlington, consists of detailed and entertaining critiques of several hundred Web sites in popular categories. The book includes a CD-ROM disc that puts Mosaic and the entire contents of the book at your fingertips without logging on to the Net. You can browse and search the book's contents, then click to log on to Ventana's Online Companion site, from which you can jump to any of the sites described in the book plus many more sites the author is continually adding.

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Walking the World Wide Web introduces an intriguing new royalty arrangement with book authors. When you buy a copy of the book, you get a "code key" embedded in the CD-ROM which gives you full access to the book's area on the Online Companion Web site. The author gets an undisclosed piece of that action. If you do not yet own the book, you can check out a sample selection for free, but full access requires payment of a fee to Ventana, which then compensates the author.

Contact: Ventana Press, Drew Ludlow, **(919)942-0220** voice, **e-mail://dludlow@vmedia.com**. Walking the World Wide Web Online Companion: **http://www.vmedia.com/vvc/onlcomp/www**; Mosaic Quick Tour Special Edition Online Companion: **http://www.vmedia.com/vvc/onlcomp/mqtw.se** (Windows) or **http://www.vmedia.com/vvc/onlcomp/mqtm.se** (Mac).

WALL DATA'S RUMBA OFFICE ADDS TCP/IP, HP SUPPORT

If you need the ability to connect a PC to almost anything short of a Commodore PET, try Wall Data's RUMBA OFFICE, a connectivity suite that supports IBM mainframe, AS/400, Digital VAX, UNIX, and now HP 3000 and TCP/IP applications. Version 2.0 of the product offers a consistent user interface, macros, and APIs across all hosts, allowing its RUMBA Tools products to be used across all host connections. A Windows 95-style user interface includes a configurable toolbar, user-alterable menus and a Microsoft Viewer-style system help manager. All RUMBA software host products now offer the capability to move multiscreen host data into a Microsoft Mail or Lotus cc:Mail message through a simple menu selection.

Mainframe connectivity has been enhanced with support for Novell's Netware for SAA v2.0 and FTX File Transfer Compression, which increases mainframe-to-desktop file transfer speed and conserves mainframe storage space. AS/400 support has increased with integrated RUMBA for Database Access which eliminates the need for expensive database gateways, host code or custom programming and allows AS/400 data to be integrated with any Microsoft ODBC-compliant application, such as Excel or Access.

New TCP/IP capabilities have been added, including TGV's 32-bit Winsock-compliant TCP/IP stack which offers higher-performance communications and compatibility with Windows, Windows for Workgroups, and Windows 95. A full suite of TCP/IP applications for printing, ftp, dialup SLIP/PPP connections, ping, NFM, TIRPC, UUCODE, and WinSNMP have been added.

Like everyone selling anything for computers these days, Wall Data offers Internet access as an option for its RUMBA OFFICE product. It's based on AIR Mosaic and includes AIR Mail, AIR Gopher, and AIR News for browsing and posting to newsgroups.

The list price for the RUMBA OFFICE v2.0 package is **$500**; add the Internet option for another **$100**.

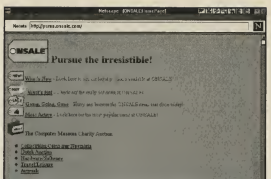
Contact: Wall Data Inc., **(800)48-RUMBA** voice, **http://www.walldata.com**.

ONSALE: AUCTIONS AND MORE ONLINE

Shopping in an online catalog is efficient but booorring. Cruising the for-sale echomail conferences is more fun; you get to dicker with a buyer or seller and perhaps strike up a lasting relationship. Auctions, with their fast-paced action and crowds of people, may be the most fun you can have while shopping.

Jerry Kaplan and Alan Fisher plan to bring auction action to the Web. The idea is to present limited-quantity goods, such as collectibles and close-outs, in a series of fast-action selling formats. In standard auctions, a single item is for sale for a fixed time period (usually one day) and goes to the highest bidder. A Dutch auction offers a number of identical items — bottles of vintage wine, for example — at the same time. The highest bidders win the available inventory at the e *lowest* successful bidder's price. If ten bottles were on the block, the price would be the tenth highest offered. The markdown sale is often seen on Home Shopping Network. A customer can buy up to the remaining inventory at the current fixed price, or can wait until the next time interval (which may be hours to days) when the price will decrease. The price keeps falling until all the inventory is sold.

Customers will be able to log on at **http://www.onsale.com**. Once connected, they can look through pictures and text describing an ever-changing array of merchandise, browsing by type of goods, price or selling format. "Guided tours" hosted by experts in fine wines, collectible watches, and other esoterica will also be available.



To place an order or make a bid, the customer clicks a button on the screen and fills out a registration form. Once registered, the customer may buy or bid at will. The Web pages are constantly updated with the latest information as bids are received, goods are sold, or prices change. The current high bidder's initials, city and state are also displayed.

You don't have to stay on the Web all day to see if your bid remains the highest. An optional e-mail service will notify you if your bid is topped, and accept an increase in your bid by e-mail if you choose to send one.

ONSALE's grand opening will be a charity auction of 250 rare computer-related items for the Computer Museum of Boston, May 22-26. Sales of commercial goods and services will begin in June. Classes of goods targeted for the initial release include sports and rock-n-roll memorabilia, computer and electronic close-out merchandise, last-minute cruises and travel packages, special wine collections, hard-to-get event tickets, vintage and collectible watches.

Kaplan is best known as the co-founder of pen-computer maker GO Corporation and for co-authoring Lotus Agenda. Fisher is an expert systems guru, president of Software Partners and author of Charles Schwab brockerage firms' consumer-access software. The two men worked together at Teknowledge, an artificial intelligence company Kaplan founded after GO went. Kaplan has just finished a book about his experience at GO Corp., ***Startup — A Silicon Valley Adventuree*** (Houghton-Mifflin). Fisher's book, ***CASE: Computer Aided Software Engineering***, was released in 1991 by John Wiley & Sons.

Contact: ONSALE, Marian Sly, **(415)615-7900** voice; **Marian@nrh.com**; **http://www.onsale.com.**◆

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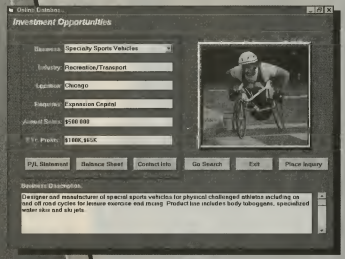

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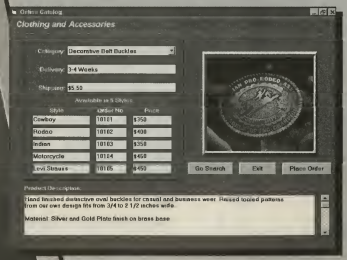

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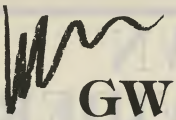

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● Tom Faulkner (Raleigh/Durham) 919-403-9473 ● John Schachat (San Jose) 408-267-7176

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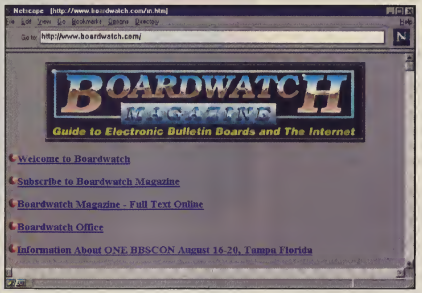


• *BOARDWATCH* WORLD WIDE WEB SERVER
• BABB'S BOOKMARK
• BLUE BOOK OF HOMES
• PUBLISHING ON THE WEB - PART 5

THE BOARDWATCH WORLD WIDE WEB SERVER

by Jack Rickard

Much of keeping a finger on the pulse of the online community has more to do with what we don't know than it does with what we do know. We get questions. A lot of questions. And it can be more informative for us in listening to the questions than it is in finding any answers. What people want to know provides an unerring indicator of what they want to do. And most of the developments online have little to do with technical innovation or capabilities - and everything to do with what people want to do - or think they want to do.

Over the past few months, what they want to do is to connect their BBS to the Internet, and to put up their own World Wide Web Server. As it so happens we want to do it too. There are hundreds of strategies for doing both, and we can easily grant that all are equally valid, or at least have roughly equivalent tradeoffs in advantages and disadvantages. But in this article, we are going to explain what we know best - how we do it here at ***Boardwatch Magazine***. You can review the results at **http://www.boardwatch.com**.

Let's assume our mission is to put ***Boardwatch Magazine*** on the World Wide Web. In doing so, we can assume a few things initially:

1. We want to do that in a way that fits with the other things we do. We have an office with maybe 20 workstations on an existing Novell LAN. Everyone wants access to the Internet from their desktop. We operate a multiline BBS now using TBBS software from eSoft, Inc. We want to add a web site to this configuration, not start over from scratch.

2. We want to do this as inexpensively as possible and still do a good job of it. We have a pretty wide readership and spew over a hundred thousand printed copies of the magazine to the four winds at this point. From surveys, we think about 3.7 readers look through each copy. Some of them will want to come look at our web site. It would be poor behavior to make them wait in line to do so.

3. We want to put as much of the magazine online as possible. This goes back to something I learned in 1988 that most of the other print publishers in the world don't know. Maybe I'll keep it a secret. In any event, the Boardwatch Web site isn't going to be a table of contents and some article samples like a ***Wired*** or ***Internet World*** site. We want to put as much of the magazine online as we can, at no charge, and make it as useful as possible. We are going to do things like make ALL references to Internet resources "live" - right down to the Letters to the Editor. If you read a letter from joe.schmoe@flavis.waven.com on our web site, you can click on his address and it will pop up the e-mail box in your Netscape browser allowing you to send him a message - NOW. If you read about a new shareware program, we want the ftp site, directories, and file name all "live" so you can click on it and retrieve it with your web browser - immediately. And of course, if we are talking about other web sites, as we do from time to time, you should be able to click on them from within the article and BE there. The web makes it possible to do some things with a publication that we just can't do in print. But we can't do it with a cute little web site with three HTML documents and a telnet pointer to our BBS.

4. We want to minimize the learning curve. We are intimately familiar with DOS and Windows and Novell. Learning PICK and SMALLTALK from scratch isn't on the agenda.

5. It must be maintainable. We do an issue of Boardwatch Magazine every month. A web site with last year's issues on it is of limited value. The act of adding the latest issue of Boardwatch to the web site is a fairly daunting task. It's about a half MB of text and 30 to 50 images in twenty columns or so. But we need to reduce the task to something manageable that can be accomplished in a timely fashion each month.

6. It must be navigable. A year's worth of Boardwatch online is a lot of stuff. If you want to find the article on TIME utilities from our March issue, and don't know specifically that it is IN the March 1995 issue, how do you find it? It's a trick question. It was in the April issue. And you shouldn't have to click through every article in every issue until you find it.

THE INTERNET CONNECTION

Let's start from the wire in the wall and work our way in towards the web server. We recently added a **1.544 Mbps T1** link to the Internet. It comes in as a four-wire telephone cable and looks for all the world like any other telephone line - but it uses an RJ-45 jack instead of an RJ-11. It looks a little bigger than an RJ-11. Otherwise, this is a telephone jack.

Connected to the telephone jack is about two feet of RJ-45 cable. The other end of it is plugged into a **Tylink ONS155-1 CSU/DSU**. They refer to it as a Network Server but it is in fact a CSU/DSU. This device is the "interface" to the T1. CSU/DSU stands for Customer Service Unit/Digital Service Unit. It looks and acts just like a modem. It's the size of a modem. It has some blinking lights on the front. It has a connector on the back for the telephone line and another for the serial cable. In this case a V.35 serial cable instead of an RS-232, but a serial cable nonetheless. The unit cost us **$1295** from a local distributor. And it operates at 1.544 Mbps.

Tylink ONS155-1 CSU/DSU

The V.35 cable would normally connect to a router. CISCO routers are very popular and the CISCO 2500, which runs about **$2500** incidentally, would be a natural. But we don't use one. Instead, we connect to what looks like a fairly standard 486-66mhz PC. It's actually a beta version of eSoft, Inc.'s Internet Protocol Adapter or IPAD. This is in fact a PC with a Niwot Networks, Inc., AT/SD V.35 Communications Board in it to interface to the V.35 connection to the CSU/DSU, a Digiboard multiport serial card, an ordinary ethernet Network Interface Card (NIC), and the software eSoft is developing to perform Internet functions. eSoft is packaging this hardware and software together, and ours as configured ran about **$5600**. Although it is a PC, and it does sport four or five simple configuration files, it is much easier to administer than most solutions to these internetworking functions. And we view it as a rather dedicated device. You don't want to load it up with other chores or modify the basic configuration much. It comes with 4 MB of memory and uses it jealously.

eSoft's Internet Protocol Adapter (IPAD)

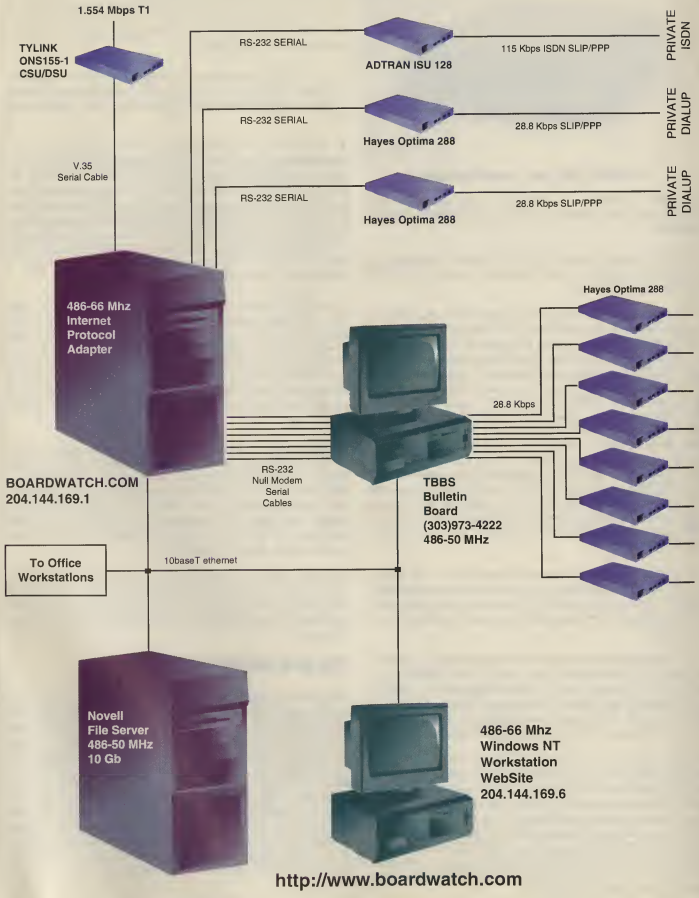
The IPAD handles all routing for our network, replacing the CISCO 2500 which would otherwise be used. This would probably not be the place to offer a tutorial on routing. But a couple of comments about some things I was quite confused about early on. TCP/IP is a packet communications technology. All data is formed into packets and the destination IP number for the packet is actually in the packet header. So routers anywhere can receive and forward packets quite automatically until they arrive at the machine with that IP number. TCP/IP packets can traverse any medium, including radio, satellite, telephone, ethernet, and probably in a very reduced bandwidth form, by smoke signal.

Our LAN is a 10baseT ethernet LAN using Novell software. Novell ALSO uses packets but of a different format entirely - IPX. The thing I found most confusing was how you could have BOTH Novell IPX packets AND TCP/IP packets on the same LAN with no problems at all. Actually, you can. The Novell software on the workstation can use IPX via the ethernet card, and WINSOCK can use TCP/IP over the SAME ethernet card and ethernet wiring. It works. So the IPAD receives TCP/IP packets from the outside world via the T1 line, and routes them to the appropriate workstation - including our Web server at 204.144.169.6. It also takes packets FROM workstations and routes them to other workstations or out the T1 to the outside world as necessary. And at the same time, the IPAD, the BBS, all our workstations, and the web server can all access files from the Novell server as always.

The IPAD isn't just a replacement for a CISCO router. It also does a number of other "Internet" things for us:

1. We connect an ADTRAN ISU 128 ISDN Adapter to one of the IPAD serial ports and to a 2B+D ISDN line. This allows us to dial in via ISDN to make a Serial Line Interface Protocol (SLIP) or Point to Point Protocol (PPP) connection to the network from home at 115 kbps. The ADTRAN too looks and acts a lot like a modem, but it can "bind" the two 64 kbps ISDN channels into a single 128 kbps channel using a process termed inverse multiplexing. To connect to a computer, the port speed is actually set at 115 kbps to match the serial port capabilities of a personal computer. In any event, using ISDN and the IPAD, we can give ourselves 115 kbps PPP accounts and do anything from home we can do at the

Boardwatch Website and BBS Diagram



ADTRAN ISU 128 - ISDN MODEM

office. The 115 kbps rate is MUCH more satisfactory than 28.8 Kbps for web browsing. This is the SLIP/PPP service of the future.

2. We also connect a couple of Hayes Optima 288 modems to two other serial ports on the Digiboard to allow SLIP/PPP connections at 28.8 kbps.

3. We connect six null modem serial cables from the IPAD to our BBS machine. Our BBS runs on a single PC that doesn't even have a hard drive. It gets all files from the Novell server. It uses eSoft's TBBS (The Bread Board System) BBS software. The BBS also has some Digiboard 8-port serial cards in it. We connect 8 Hayes Optimas to some of these ports so that callers can dial our BBS directly at 28.8 kbps at **(303)973-4222**. We connect six ports via the null modem cables to the IPAD. In this way, Internauts call telnet to **boardwatch.com** (204.144.169.1 - the IPAD machine) and be connected via the serial cables to the BBS. It also allows our dial-in callers to telnet or ftp OUT through the IPAD to the Internet. Uncle Phil tells us that since TBBS has IPX logons supported now, soon we will be able to do away with the null modem cables entirely and the connection between the IPAD and the TBBS will be accomplished entirely over the LAN ethernet. Sounds good to me.

4. The IPAD has a built in domain name server. This allows us to be our own authoritive name server for the boardwatch domain. If we say 204.144.169.6 is our web server, and corresponds to **http://www.boardwatch.com**, it becomes so by our saying it.

5. The IPAD handles Simple Mail Transport Protocol (SMTP) electronic mail transactions. We wrote our own TBBS option module, the Personal Internet Mail Processor or PIMP to scan messages **out of** the TBBS message base in UUCP format, and add UUCP format messages **to** the TBBS message base - in real time while the BBS is up and running.

The IPAD picks up the outbound messages PIMP makes and actually makes the connection to the destination machine to transmit and deliver the message. It also acts as an SMTP server; if someone sends an e-mail message to **boardwatch.com**, it receives the message, formats it for PIMP, and puts it in an inbound directory where PIMP can find it and add it to the TBBS message base. The SMTP function can send or receive up to 15 messages simultaneously - making it a bit of an e-mail machine gun. This is fun to watch. And mail comes and goes very quickly.

6. IPAD also handles Post Office Protocol (POP) mail. If anyone on our LAN here at the office, or dialing in through the 115 Kbps or 28.8 kbps SLIP/PPP lines, wants to use PC Eudora or another POP mail program to send and receive e-mail, the IPAD will handle that too. We can set it up so it "diverts" some addresses to the POP mail process instead of sending them to the BBS.

7. The IPAD is supposed to handle Net News Transport Protocol (NNTP) service for USENET News Groups. The beta version we have doesn't yet. We're told "soon." Soon would work.

8. The IPAD is the File Transport Protocol (ftp) server for **boardwatch.com**. If you ftp to **boardwatch.com**, you can access a public directory to upload or download files. We haven't done much with this. With the right logon and password, we can dial in and put files and get files from anywhere on the LAN. But anonymous callers can access a single directory. There's not much there most of the time. The directory is actually on the Novell file server. And our BBS callers can access it as well. If they ftp out and retrieve a file, it goes in this directory and they can then download it.

So the IPAD does our routing, our mail, our SLIP/PPP service, our domain name service, and acts as the ftp server, finger server, whois server, ping server, etc. that you would need to be if you wanted to be on the Internet. It connects our BBS so that our callers can ftp and telnet out and Internauts can telnet in. It has a console that we can watch to see who is doing what where, and how come. You can find out more about the IPAD from eSoft's web site at **http://www.esoft.com**.

The Novell Server does about what you would expect. It is a file server. Most of the files for the BBS, for the IPAD for that matter, and for everything else in our office really reside on this server. All the Hyper Text Markup Language (HTML) files for our web site reside there. It's a not so young 486-50Mhz with about 10 Gigabytes of hard disk. You certainly don't need 10 GB to run a web site. This is the existing file server for our office LAN and BBS.

The office LAN uses 10baseT ethernet. We have RJ-45 jacks in virtually every wall of every office. To add a machine to the LAN, we just plug it into a wall jack, add a connection to a 10baseT hub at the server, and update the user logon area in Novell.

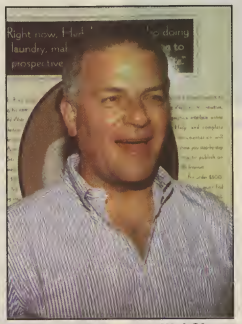
THE WEB SERVER MACHINE

The machine that hosts the web site server is a very plain vanilla 486-66 Mhz PC in a mini-tower case. It does sport 16 MB of RAM which we would rate as a minimum. It does have a local hard drive, perhaps 540 MB, and it is connected to our network via ethernet. Total hardware cost is probably less than **$1200** though we did put most of this together ourselves. A 486-66 with 540 MB, VGA, 16 MB of RAM and an ethernet adapter is certainly available almost anywhere for less than **$1500**. Performance of this system could be considerably improved with a caching controller and maybe another 16 MB of memory, but we haven't bothered yet. Since almost all of the actual HTML documents reside on the Novell file server, a 340 MB hard drive would be overkill.

The system uses a copy of **Microsoft Windows NT Workstation Version 3.5**. We intend to upgrade it to the Server edition, but right now it runs the Workstation version. We like NT for this task for a number of reasons. It has a 32-bit version of **WINSOCK** built into it and it is incredibly simple to configure for TCP/IP. You almost can't NOT configure it for TCP/IP when installing it. The Novell client services are much improved in this version and we have little difficulty connecting it to our LAN. Compared to the piles of shims and ODI drivers and packet drivers we have to cobble together under Windows 3.1 to get IT to do both Novell and TCP/IP, Windows NT is a no-install task.

Windows NT has an interesting aspect to it. It can assign up to **16** Internet Protocol addresses to a single Network Interface Card or **NIC.** In this way, we could have a single machine with 16 IP addresses. We could also conceivably operate 16 entirely different and unconnected web sites from the same machine, all on different IP addresses. We currently have this machine setup as **204.144.169.6**, which corresponds in our domain name server to **http://www.boardwatch.com**.

And finally, we use Windows 3.1 a lot around the office, and WindowsNT is sufficiently similar that the learning curve for this operating system is reasonably short and familiar. It is different, but not alarmingly so. As described in our April 1995 issue, we are seeing a lot of freeware, shareware, and low cost products in development and released for TCP/IP applications, and it appears that it is becoming the operating system of choice for a lot of TCP/IP developers. It is not the least expensive option. The Server edition runs about **$700** on the street and the Workstation version is a little over **$300**. You can find out more about Windows NT from **http://www.microsoft.com**.



Robert B. Denny - WebSite

THE WEB SERVER SOFTWARE - O'REILLY'S WEBSITE

The heart of a web server is of course the web server software. There are several choices out there, including a FREE program titled EMWACS that is really pretty good that comes with the Windows NT Resource Kit.

We didn't use EMWACS. There are several more commercial products available for Windows NT and one in particular caught our eye - a program titled WebSite from O'Reilly& Associates. We got a beta version of this and liked what we saw. It was released May 15, 1995 at a list price of **$499**. We think it's well worth it.

The program originally caught our attention simply because it was distributed by O'Reilly & Associ-ates. And O'Reilly & Associates has never really been a software company. They are a book publisher. In the past, they published very short run, very technical books on relatively obscure, but useful topics such as PERL programming, DNS and BIND, SENDMAIL, and various other UNIX topics. A number of these have centered on communications issues, TCP/IP administration, UUCP and so forth, so we have followed them with occasional reviews over the years - virtually all laudatory. We've literally never seen a really bad title out of this small press. Three years ago, they published Ed Krol's ***Whole Internet User's Guide & Catalog*** and it was a huge seller. So the company has been doing more Internet books very successfully in the past year or so.

A gentleman named **Jay Weber** of Enterprise Integration Technologies, Inc., had written a couple of fascinating programs titled **WebView** and **WebIndex.** Basically **WebView** provides a graphical tree view of a set of HTML documents complete with links, and Web-Index can rapidly index an entire series of HTML documents for keyword searching.

Meanwhile, Robert Denny had written a web server for Win-dows 3.1 titled **Windows HTTPD** which was marketed as shareware with a **$99** registration fee. The program was pretty popular with over **20,000** downloads from the home system. Denny was actually CEO of ALISA SYSTEMS, a fairly successful company that developed e-mail integration and gateway type products for commercial e-mail systems.

Weber contacted Denny and eventually introduced him to O'Reilly & Associates. The result is one of the best packaged pieces of work we've seen for some time. Denny rewrote the HTTPD program as a 32-bit application with more bells and whistles. They added in the EIT WebView and WebIndex programs, along with the browser Enhanced Mosaic which they licensed. And O'Reilly & Associates produced a 350 page manual that as always is superb. Gina Blaber is the project manager for WebSite at O'Reilly & Associates. The product works on Windows NT Workstation 3.5 or Server 3.5, and also on the new Windows95 version scheduled for release in August.

THE SERVER

The server portion of the program sported a number of features we found intriguing. First, it was a true 32-bit application. We had originally thought 32-bit was mostly hype. We now think it does in fact make a difference. We wanted to do several things on a web server, and it did fill the bill.

Robert Denny, Gina Blaber, and Jay Weber

Image Maps

One of the sexier aspects of web sites we see around is the single graphic image that allows you to click on a specific area in the graphic and link to another document or even another web site. These take the form of a menu often times that is all done in a single GIF image. We've done a couple of things with this. In one instance, we put a graphic of a solar system made up of a sun with twelve planet earths around it. We labelled each planet for a different month in the year. You can view this image, and click on the planet of the month. That will link you to the HTML document for that issue of Boardwatch.

A similar application was the ISDN map of the United States from our March 1995 issue. This is a map of the US with colored zones for each of the seven Regional Bell Operating Companies (RBOC). We wanted web users to be able to click on the zone of the map representing an RBOC and be connected to the web site maintained by that RBOC.

WebSite does support image maps. You can't easily use just any image map editor. But it does sport its own editor. You simply designate a GIF image, and it will pull the image into its editor. You can then define various shapes, boxes, elipses, or even irregular polygons, and tie those defined areas to a document or other web site URL. You can then add a reference to that ISMAP in your HTML document, and you're done. We found it a little glitchy on large GIF images at 72 dpi. The polygon outlines would disappear and you could hardly tell what you were doing. But it basically works - and quite well on the normal sized GIF images commonly used.

CGI Program Development

Web Servers look for all the world like bulletin board software circa 1981 in a lot of ways. They do some fascinating things, but there are more things they DON'T do than they do do. And bulletin boards of even early vintage usually have some form of appending OTHER programs to them, usually called DOORS, to perform various tasks. In UNIX web servers, there is a similar **A**pplication **P**rogram **I**nterface (**API**) called the **C**ommon **G**ateway **I**nterface or **CGI**. In UNIX, the web server can pass data from an HTML document to a CGI script, which runs various programs as necessary and returns resulting data for display over the web.

We didn't really care if it qualified as a CGI precisely after the UNIX fashion, but we did want some form of application program interface so we could develop additional programs as necessary to process subscriptions, etc.

WebSite is really quite advanced in this regard. It has THREE different CGI methods to run DOS programs, Windows NT standard programs, and true Windows applications.

The DOS interface will allow you to actually run a DOS program, such as a dBASE application, as a web server CGI program. These programs run in Windows NT virtual DOS windows, and suffer most of the limitations of DOS itself. The **WEBFIND.EXE** program used with WebIndex is a DOS application. And it seems to work quite well.

The Windows NT standard interface will run Windows NT shell scripts or NT PERL scripts. This is the closest thing to the UNIX CGI method. And in fact, according to Denny, UNIX PERL scripts could be run in this mode with little or no change.

The interface we have used quite successfully though is the Windows application interface. WebSite comes with some sample programs written in Visual Basic. To use them, you must have the **Visual Basic Pro Edition** compiler from Microsoft. But using the sample programs that come with WebSite, Visual Basic apps are really very simple to write. You could do the same thing in Visual C++, but you would have to duplicate the calls in Denny's Visual Basic examples.

The Visual Basic programs are not only simple to generate, but VB may be the best way to interface WebSite with other Windows applications. It is really very easy to take advantage of Microsoft's Object Linking and Embedding standard from Visual Basic to call operations in Microsoft Excel or Microsoft Access. In this way, extraordinarily powerful functions can be developed to add to WebSite's normal web server functions. We wanted to create an application that would present an easy to complete subscription form allowing Internauts to subscribe to ***Boardwatch Magazine***. The application was to actually create an e-mail message in UUCP format and place it in the TBBS bulletin board systems inbound mail directory. In this way, completed subscriptions would appear in the normal e-mail box of **subscriptions@board watch.com** and we could process them easily from there. Gary Funk, our techno-guy, whipped out a Visual Basic application to do this in literally twenty minutes. It takes less than a minute for a subscription to show up in the e-mail box. We're a little slower in actually getting the magazine through the street mail.

Access Control

Ultimately, we want to be able to control who accesses what on our web page. This is a basic function of electronic bulletin boards and will emerge pretty much as a requirement of web server software as well - ultimately they are approximately the same thing. WebSite takes advantage of the fact that a number of browsers, including the Netscape browser, can automatically resend a logon name and password with each document request. And WebSite can restrict access to specific groups of users - all the way down to the file level. So each individual graphic and file on our WebSite can be keyed to a different set of users if we so wish.

We will probably make the full text of all issues of ***Boardwatch Magazine*** available on the web free of charge. But ultimately, we do probably want to know who is accessing the publication in this manner. So at some point, we'll add a function to require callers to "register" their user name, password, and mailing address. Maybe we'll ask how often they walk their dog. Whatever. In this version of WebSite, adding and deleting users is a rather manual task that you perform from the program itself. Ultimately, we are hoping to do a CGI we can incorporate into an HTML document that will ask for this information from a caller, and immediately update the user database so they get instant access to the issues online once they've coughed the basic information in the registration.

The desire to do various things with user databases is more or less endless. How many users call from Connecticut between 2:00 and 4:00 am? How many times has this cretinous Joe Schmoe from Indianna been on the system? Sysops want to know. We'd like to see some more development in WebSite in this area. But WebSite already seems more in tune with this need than any other server we've looked at.

Capacity

We would expect a number of "hits" on our server. We expect this because we did have a bit of a server up for several months on a Windows 3.1 machine using a program our own Gary Funk wrote. It took a lot of traffic. Sufficiently that we wanted to move to Windows NT and a T1 line.

The web is a little different in calculating loads largely due to two factors. First, callers are not actually ON a web server for any length of time in the same respect that you would logon to a BBS and tie up a telephone line and modem. On the web, they connect to the machine momentarily, retrieve a document, and they are gone. They then view the document on THEIR machine. They may then click on something in the document that causes the browser to again establish a connection to the web site to retrieve ANOTHER document, a graphic image, etc.

You may have seen Web Sites touting the number of "hits" they take per day. We've found that on our system, there is actually a single call from a single new person accounts for 17.5 "hits" on average. This is very variable depending on the nature of the site. But the point is that Web Server's are quite different - there is no ongoing load - just a series of brief requests and transmissions. So you could handle a lot of callers even if only one could be on the server at a time. Most of the work is done on THEIR machine, not yours. But if two cybersurfers did hit the server at the same time, we don't really want them to wait in line. WebSite has a logical limit of 96 "sockets" or simultaneous sessions it can perform at once. The REAL restriction would be the speed of the web site hardware, in this case an uncached 486-66 Mhz PC, and the bandwidth of the Internet connection. Our T1 line operates at 1.544 Mbps theoretically. And 96 simultaneous sessions would cause each session to look like about 16.0 kbps data throughput. So our pipe can probably handle 96 14.4 kbps SLIP cybersurfers. And at 28.8 kbps the pipe itself is probably limited to about 53 or 54 sessions. With data compression, this would be less, but we figure a T1 handling about 50 sessions simultaneously would be able to do so at a rate that wouldn't create howls of protest.

Whether the 486-66 Mhz can actually **DO** 50 sessions simultaneously or not under Windows NT is hard to determine until we have to. One of the reasons we liked the move to NT was it appears to be very scaleable. We can add memory, a chaching controller, move to a Pentium, move to a multiprocessor Pentium. Intel is now talking about multiprocessor P6 architectures. In other words, the NT platform allows us to buy our way out of trouble by moving to hotter iron.

But actually, we probably never would use that technique. Note that on our home page is a reference to information about ONE BBSCON. Click on it, and you get a whole series of options for ONE BBSCON information - you can even register right there. The trick is, none of it exists on our server. It's all located on a machine over in the ONE, Inc., office - about 40 miles away. This is the nature of the web - hybpertext links. So our more likely scaling scenario simply involves breaking up our HTML document tree based on observed usage, and spreading it among two, three, five, eleven, or however many cheap 486 boxes it takes all connected to our net and all running WebSite - serving up different portions of our tree. If you click on the March 1995 issue, what difference does it make if it resides on 204.144.169.**6** or 204.144.169.**7.** They are just references.

WEBVIEW

The WebSite server is impressive. But there's more to the WebSite package than the server. The program Jay Webber developed is called **WebView** and it is a killer. The basic *raison d' etre* behind WebView is to provide a graphical tree representation of an entire set of HTML documents. In developing a web site, you actually develop dozens and in our case literally hundreds of HTML documents. A single issue of ***Boardwatch*** winds up consisting of about 60-80 HTML documents, and an additional 30-60 graphic images. We actually have the last seven issues of ***Boardwatch Magazine*** up as I write this. But it becomes a fairly daunting maze of directories, HTML documents, JPEG images, GIF's, etc. Not to mention the thousands of references to OTHER web sites those documents contain.

WebView can not only be used to view this tree, but it will actually check all the links, not only between documents, but it will even check all the links to other sites. In fact, it can walk your tree right OUT of your site, into someone else's, and start walking THEIR tree. We don't know exactly how far this goes. But it starts to look like one of those Web Worm programs used to automatically walk the net collecting URL

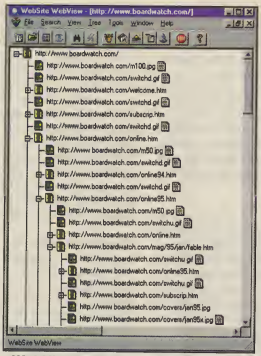
references. It's a little frightening to watch.

WebView is a bit like a CAD program for a web site. It offers five basic views of your document tree, and sports a tool bar full of useful utilities for document development. You can switch between the five views with a mouseclick.

The **HYPERLINK view** shows a tree that indicates links between documents, graphics, and other sites.

The **FILE view** shows the full path, directories, subdirectories, and file names of every document in your tree.

The **URL view** shows the same tree, but with the full Uniform Resource Locator (URL) of each element of the tree.



WebView in action using URL View

The **TITLE view** shows all documents depicted by the title defined in HTML in the document.

The **LABEL view** shows all documents depicted by HTML LABELS held within the documents. Often, you will see a single file with a CONTENTS at the top that takes you to various spots within the same document by reference to LABELS within the document. This view can display those.

The displayed tree is somewhat similar to FILE MANAGER in that you can expand it and collapse it with a mouseclick to walk down any particular branch of the tree or conversely to ignore most of it. Tiny icons also indicate whether it is a link to an external site (a little globe of the world), whether its a graphic image, a document, an image map, etc. By switching between the five views, you can really get a good model of what makes up your "web" of HTML documents. You can also quickly click on any element to bring it into an editor (Notepad is the default but this is configurable) and even quickly bring up images and documents in the web browser of your choice.

WebView also sports a tool bar that allows you to perform various operations on the documents in the tree. We'll talk about a few of the more useful tools:

PROPERTIES TOOL

The PROPERTIES tool allows you to examine any element of your web for several things. The ACCESS function allows you to not only examine, but change which "groups" of users have access to this particular element. Note that WebView displays elements right down to individual HTML files or images. This PROPERTIES tool allows you to alter the access rights for each image or document individually - not just by directory. The net effect is that the WebSite server access control functions are very granular - right down to individual images and documents.

The PROPERTIES tool also has a DIAGNOSTICS function that will examine an HTML document for adherence to the HTML document specification, and indicate any errors it finds.

Most importantly to us, the PROPERTIES tool has an ACTIVITY function that allows us to see what users accessed this particular document, from which IP number, at what time, over any number of past days - which we can define. This allows us to poke around our web and see which articles or images are getting hit the most and are thus in some way the most or least popular.

BROWSER PREVIEW

The BROWSER PREVIEW tool simply calls up a web browser and loads the selected item from the tree. WebSite comes with a copy of Enhanced Mosaic and this is the default browser. But you can easily change this to Netscape or whatever is your favorite. The net effect is that you point to an element in your tree, and click on BROWSER PREVIEW, and you see it just as your callers would. Since the basic treeview function allows you to double click on an item and load it into NOTEPAD (again this is configurable, you could define another editor) it becomes pretty easy to "edit" your HTML document and with a click go see the result using the BROWSER PREVIEW.

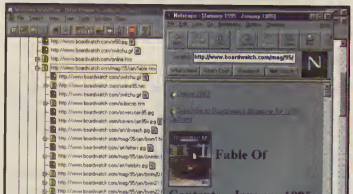


IMAGE MAP EDITOR

We previously described how to use the Image Map Editor to define regions on a graphic image and tie those regions to URL references. The image map editor is also on the tool bar allowing you easy access as you browse the tree.

QUICKSTATS

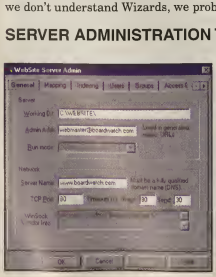
The **QUICKSTATS** tool scans the WebSite activity log and builds a very informative little display showing some statistics about your server over the past seven days. This screen lists the number of HTML document hits your site has received for the period, the number of graphic image requests, the number of CGI application program requests, the number of erroneous requests received, and a total number of requests processed. It also displays the average number of requests the system handles per hour, the average number of requests per day, and the number of unique new hosts visiting the site for the period.

QuickStats In Action

WIZARDS

Wizards is one of those tools included to make WebSite easy to use. We don't find much application for it. Maybe we don't understand it. It looks like Wizards provides some very simple, very easy to setup templates for various page types. There's a WHAT'S NEW PAGE type that asks you some very simple questions, and then it generates a very simple HTML page to handle it. We don't even use an HTML page layout program at this point. We've found most of them spill tons of useless HTML codes into documents in a very unreadable form and are not very efficient. I've been writing HTML documents in XyWrite and Microsoft Word using some macros I soon found I needed. Gary uses an ancient DOS editor titled MultiEdit that is really pretty good at doing this stuff. So basically we do them manually, and go read one of Michael Erwin's columns on HTML design if we get stuck. So unless we don't understand Wizards, we probably don't need them.

SERVER ADMINISTRATION TOOL



There is a server administration tool used to configure the server part of WebSite, add users, define directories where things are located, etc. A little icon has been added to the toolbar of WebView so that you can call this up from within Web-View without having to exit. Nice touch.

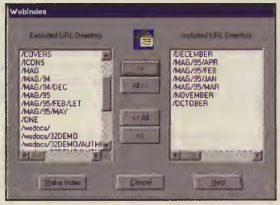
WEBINDEX

We really didn't "get" this one at first. It's very plain, and when it doesn't work you can barely tell. If you don't know already, it's a bit hard to tell when it DOES work. Once we figured this one out from the documentation, we did get a little excited.

One of the things we've always wanted, even on our BBS, was a full text search of back issues of Boardwatch by keyword. We've tried some things, but they were always hard for callers to use, and worse, they were a bear to maintain each month as we added new issues of the magazine. But we do a lot of stories in the course of a year, and even I can't recall each issue the "story on x" was in, and often we need to locate the vendor or find out more on how it is developing. A searchable index to back issues of Boardwatch would be nice even if we were the only ones who ever used it.

WebIndex does it. And it does it completely. It fills the bill for an easy to use keyword search engine, it's easy to use for callers, and it is very easy to reindex on a monthly basis. It allows you to do full text searches of your web by keyword with full AND/OR search capabilities.

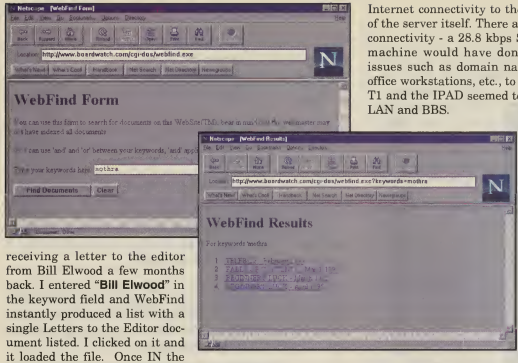
The program is so simple we just didn't get it. It displays a series of directories from your web tree on screen. You can select any of them or all of them for indexing. And then you click on **MAKE INDEX**. The program chugs away for awhile and then quits. If you watch on the Windows NT Performance Monitor, you can tell this thing is working VERY hard. Then it's done.



It actually creates an index file of all HTML documents in ALL of the directories you specified. In the case of Boardwatch, this was seven directories containing about **1500** files. It took about six or seven minutes to index all of that.

WebSite also comes with a DOS mode CGI program titled **WEBFIND.EXE**. If you put a reference to this CGI program in ANY of your HTML files, your callers will be able to click on this program to activate it. It will display a fairly plain screen with a field to enter keywords. They enter the search word they want and press ENTER or click on SEARCH. The program almost INSTANTLY produces an HTML page listing EVERY document, by the title defined within the document, that contains that keyword or keyword AND/OR combination. These are hot links and the caller can then click on any of the documents containing "hits" to bring it up directly on their screen.

This is just a marvelous function. You don't have to click around your web page any longer to find something. I recall



receiving a letter to the editor from Bill Elwood a few months back. I entered **"Bill Elwood"** in the keyword field and WebFind instantly produced a list with a single Letters to the Editor document listed. I clicked on it and it loaded the file. Once IN the file, I could use the **FIND** function in Netscape to find the actual text **Bill Elwood** within the document. The result was that from vaguely remembering his name and that we had published his letter to having the text in front of me was less than 10 seconds total. Better, since we've made all references hot in all the issues, his e-mail address was highlighted. I clicked it and NetScape popped up their e-mail editor with a message pre-addressed to him. I love the web.

We're actually pretty good at breaking software. So of course we entered a series of very common words such as "the" in the search field of WebFinder. We were delighted to learn that they had already handled this trick. It does not index common words such as **"the"** or **"and"** etc.

The program does not sport a very informative interface. We found that if we tried to index the directory containing our March issue, it would chug away just fine and appear to complete - but it didn't write any index file at all. There was no on-screen indication of an error, no error file, just no index. After several hours of experimentation, we learned that the existence of one Targa (.TGA) file in the directory killed the process. We removed the file, and WebIndex happily created an index for the March issue. We don't know why it didn't like the .TGA file, and we could have certainly used some indication that it had found a file it didn't like - better the path and filename of the offender. But we got nothing.

But the result is something we have always wanted but thought might be hard to get - a full text keyword search of our back issues that is extremely easy for callers to use, and also very easy for us to update as we add each issue. WebIndex is a killer tool - that needs a little operational interface development.

WEBSITE SUMMARY

The actual server part of our World Wide Web server actually runs about **$2000.** We think we have about **$1200** in hardware, **$300** in operating system, and **$500** in the WebSite package. That does not count what it costs to get TCP/IP Internet connectivity to the web server. It is simply the cost of the server itself. There are many many ways to get TCP/IP connectivity - a 28.8 kbps SLIP account for the Windows NT machine would have done too. We have numerous other issues such as domain name service, e-mail, our BBS, our office workstations, etc., to consider in the overall design. The T1 and the IPAD seemed to work best for our existing Novell LAN and BBS.

WebSite is really a pretty good integration of three separate programs, the **server**, **WebView**, and **WebIndex**. The server is a very capable 32-bit server that can handle up to 96 sessions simultaneously giving this package a capacity well over 100,000 hits per day. The CGI interface is THE best and most flexible we've seen. We would love to see the Access Control function more fully developed where we could easily update it from forms within HTML documents.

WebView goes quite beyond a web server to undoubtedly the most powerful web development and editing tool we have seen. It's virtually a CAD program for web sites. You can easily integrate your own HTML editor and favorite web browser into it to really make a powerful web development environment. It's ability to also check all your links, and even check links OUTSIDE your web, is almost frightening.

And **WebIndex** allows you to overcome the "clickiness" of navigating a large web site in search of some specific information. It's fast, easy to use, and simple. Every web site has some use for full text true keyword searches. For very large data sets such as we would obviously have with about a year's worth of Boardwatch issues up, it is a stunning addition.

Finally, the largest problem most people will face in setting up a web site doesn't really have to do with the web server software. It's getting through the learning curve about what a web site is, what one could be used for, and how to accomplish all of that. We have only seen preliminaries of the **350 page book** that goes with WebSite, but the PRELIMINARY documentation for WebSite is better than 99% of the shipped documentation you usually get with a software program of any kind. With O'Reilly's demonstrated ability to put out absolutely the finest books on very technical subjects, we're confident it will be one of the best pieces of software documentation released in the last ten years. And it comes at a time when an incredible number of people really need a leg up on the learning curve regarding operating an online service on the World Wide Web.

As such, WebSite at **$499** is a masterpiece in most all respects and comes with our very highest recommendation. We would predict this will be the single most influential software release of 1995 in the world of World Wide Web. O'Reilly & Associates, 103A Morris Street, Sebastopol, CA 95472; **(707)829-0515** voice; questions to **website@ora.com**. Orders to **order@ora.com**.
Web site **http://website.ora.com**. ◆

Right now, Herb Johnson is also doing laundry, making dinner and talking to prospective customers with WebSite™.

Meet Herb. He's busy promoting his com-pany on the World Wide Web, one of the fastest-growing networks on the Internet. And thanks to WebSite, a new server software package for NT 3.5 and Windows 95 users, he's getting lots of other important things done, too.

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BABB'S BOOKMARKS

by Chris Babb

The customary dribble:

The Web is growing!
The Web is big!
The Web is a bandwidth hog!
The Web is useful!
The Web is useless!

The Web, the Web, the Web..... I'm so tangled in the Web that I have been having these really horrible nightmares. In them, I'm all wrapped in virtual copper wire and there is this really ugly, really huge cyberspider, squawking like a broken modem and stinking like smoked electronics coming towards me at 115.2K baud and followed by a roving band of unruly, torch wielding..... Netscape over-enhanced homepages!!! Arrggghhhh! SATAN and NTChrist.... HELP ME! Then I wake up. Must be cyberspace calling my name and telling me that 185 hours of netting was not enough last month. Or too much. Or something. Enough.

I need to make a quick apology to Andrew S. Damick for fumblefingering the 'k' in his last name and hitting a space instead. Andrew is the owner of THEBOB© Web, an outstanding site featured in the March issue of this column. He was very kind and also asked me to add a mention for a couple of newsgroups that are Web-specific. You will find them below. Now, the meat.

One time while in Denver, I stopped at this big 5 story bookstore called the Tattered Cover. I was amazed. (I'm always amazed at something) This place was bigger than my local library and was much more interesting. I browsed until my eyes were virtually hanging out of their sockets, talked to the employees about hard to find books until they just threw the catalogs at me, and had a nice, albeit one-sided conversation with this older gentleman whose only interest seemed to be in reading the paper. I only realized he was a mannequin when I found him in the same position an hour later. Did I say that my eyeballs were cached? On this "non-virtual, pre-Web" browsing adventure, I also found an excellent collection of maps and satellite photos. Very cool. Very expensive. Very much in my hands and now on my walls. I spent some more time when I got home, trying to locate and collect as many poster and wall size satellite photos as I couldn't find or didn't want to shell out cash for. Then, along came the Internet and the Web.

Now, I have always been interested in space, flying and pictures of it all. My father got me started in the 60's (am I that old?) with Gemini and Apollo. I didn't realize then how it would influence my thoughts and change the lives of everyone today. If it wasn't for the space program, everything would have buttons or zippers instead of Velcro. Tang would be just a slang word, not a gritty orange drink. The only thing squeezed from a tube would be toothpaste. I would be accessing nothing, with a Timex-Sinclair computer that would be delivered in a moving van and have a whopping 1K of core memory. We would never have seen a potty with straps to prevent an accidental methane-fueled launch across the cabin of a spaceship. Lastly, no space or satellite photos. Boo hoo.

Fortunately, during the 60's, our presidents had grand visions and the political clout to make them fly without having to fight Congress every step of the way. Back then, we had something for everyone to work towards, to band together for. We had our heroes. Who are our heroes now? Let me know and I'll find their homepages.

The point of the preceding tirade is that the technology of today is here because of the efforts of yesterday. I hope this is not lost on our current administration. I kind of like the technology we have today; don't you?

Over the years, I have collected a mountain of books and videos on the subject of space and satellites and I am on an eternal quest for more of the same. One of the first goals I had while learning about the Internet was to learn where I could find this type of information. The only thing that has disappointed me so far is that I don't have enough time to peruse all of the information and pictures available. I have tried, but work and sleep usually call at the same times everyday.

I have collected just a few of these marvelous sites for you to enjoy. A couple of these sites have been mentioned before in this magazine but, since I usually get caught up in some theme or another, they seem to fit perfectly here again. There are many, many more sites available on this subject than I could possibly fit into the space allotted here, but almost all of the sites listed have links to links and links to more links, so I can be pretty sure you won't run out of things to see and do. Let's blast off into "cyberspace." (Yeech! I got to quit using that word. After all, myself and all readers of BOARDWATCH Magazine are just a little beyond the hype and glitter that any mention of the Internet seems to spawn.)

A special note: I am not going into great detail on these sites for two reasons:

1. There is too much information available on any one of them.

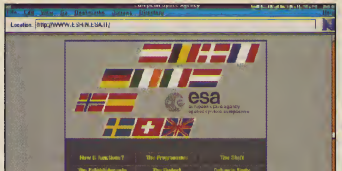
2. There is no point in describing in excruciating detail all of the really great information available, when I can point you there with a few words of encouragement and a URL and then let you discover the rest for yourself.

The purpose of this column now and in the future is to point you to some of the more interesting places lurking in the shadows of the Web. I want you to amaze yourself as you stare in awe at things you didn't know or have never seen. Or maybe sigh and roll your eyes at those you don't want to see and wish didn't exist. I have a few of those saved up. Ahhh, fun stuff for another fun day.

WEB NEWSGROUPS

comp.infosystems.www.announce
alt.culture.www
alt.hypertext

These newsgroups are great resources for anyone who has an interest in the Web. Thanks to Andrew S. Damick, creator of **alt.culture.www,** for bringing them to our attention.



SPACE SITES

NASA:

http://www.gsfc.nasa.gov/NASA_homepage.html

This site is really the definitive space site on the Web. The homepage contains links to everything you ever wanted to know about NASA: HOT Topics, Strategic Plans, Public Affairs, Education and other resources, along with a clickable map of NASA sites throughout the country. From the HOT Topics page you have access to links for information, pictures and movies on past, present and future projects. Strategic Plans gives you a view of things to come and how NASA plans to get there. Public Affairs puts the achievements of NASA and virtually everything you ever wanted to know about NASA in your hands. The clickable map of the U.S. contains links to all of the major sites like JPL, Johnson Space Center, Kennedy Space Center and 10 other places that have made important contributions to our Space program. There is so much other information available on this site and on other sites linked here that I cannot possibly begin to describe them all. You must check this one out for yourself.

The type of information available on this site far surpasses the information I used to send for by snailmail back when I was a kid. I never dreamed that I would be able to access this information like we can today. Much of this, thanks to the accomplishments of NASA. This site is a 'Must Have' bookmark.

EUROPEAN SPACE AGENCY:

http://www.esrin.esa.it/

As this page states:

The aim of the European Space Agency is to "provide for and to promote, for exclusively peaceful purposes, cooperation among European States in space research and technology and their space applications, with a view to their being used for scientific purposes and operational space applications systems."

Hurrah! This is the way it should be. Space belongs to all of us, and the benefits gained from space research should be shared by everyone. The more people who have access to this knowledge, the more ideas for new applications will come from it. Many developments from the world's space programs have helped to benefit us in so many different ways. We must keep space research going, and keep its results available to all people.

This site describes the ESA in great detail. You'll find descriptions of the 15 member countries, an overview of the ESA delegate body, press releases, public relations and the current and upcoming programs. Also supplied is a clickable map of the ESA sites spread throughout Europe. Click on a dot on the map and you are presented with specific information on this site and of course, more links. There are also links to other space agencies from around the world with even more links to thoroughly assault your senses.

VIEWS OF THE SOLAR SYSTEM:

http://www.c3.lanl.gov/~cjhamil/SolarSystem/homepage.html

This is my absolute favorite site on the entire Web. This single site could take up most of a magazine by itself. From one page, you have access to examples of most every type of photograph of space, planets and the earth that NASA has ever taken. From Voyager to the Space Shuttle, examples of the pristine and solitary beauty of the heavenly bodies are boldly displayed and categorized in an easy to follow format and intriguing detail. All of the categories listed take you to other pages of wonder and some of the most descriptive information

I have found yet. I thought I had seen or heard about most everything concerning the space program by now, but I was quite surprised to find information about the test Saturn launches in the mid sixties along with some excellent photographs from the most recent Shuttle launch and the Hubble telescope. All of the pictures available are in GIF and JPG formats and movies are available in FLI and MPG formats.

If you are interested in the terrestrial, there are several pages devoted to information and satellite photos of volcanoes, impact craters and some interactive viewing of a couple of areas of the country in extraordinary detail.

If you enjoy and have a passion for space and exploration, this is the place for you. Anyone who needs information on the earth, moon, planets, space program, space vehicles or probes, this is the place. Visit it often; there is new material being added constantly.

SPACE PROGRAMS OF THE UNITED STATES:

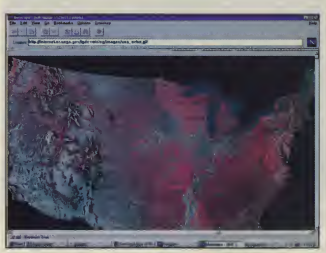
http://solar.rtd.utk.edu/~jgreen/usguide.html

Another excellent site, filled with information and pictures about the U. S. Space Program. Here you will find the log of human space flight, listing most everyone who has ever been in space: Astronaut info, bios, images and facts; mission and vehicle information along with lots of images of everything from the Mercury missions to the Shuttle, lunar and planetary explorations, to satellite and observatory information. For me, the buzzword for this site is images, images, images and good ones to boot.

SATELLITE SITES

I like satellite photos. I like to see what this world really looks like from on high. Our world is extraordinarily beautiful from above and always makes me wonder what someone from another point in space would think if they were cruising through this solar system and saw this planet. By far, the earth is the most striking of all the planets.

Not too long ago, we didn't know what the Earth actually looked like from above. Today, we see it every day. Scientists are uncovering new explanations for many of the events that have occurred throughout history. Major calamities, weather patterns, even our own history can be found and brought to life with the imaging technology available today. And I didn't even mention what weather satellites are doing for us today. Just turn on the TV and you'll see for yourself. Could you imagine being without it? Not me!

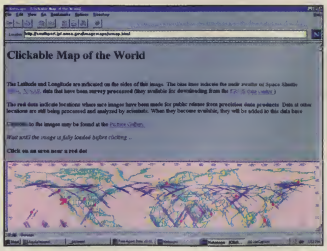


DIGITAL AIRBORNE AND SATELLITE IMAGERY:

http://info.er.usgs.gov/fgdc-catalog/products/Digital_Airborne_&_Satellite_ Imagery.html

I was really pleased to find this site, especially when I saw one of the pictures I had hanging on my wall, right at the top of this Web page!

This site features imaging from the Earth Resources Observation System (EROS) Data and includes images taken by Side-Looking Airborne Radar (SLAR), Advanced Very-High Resolution Radiometer (AVHRR), Land Satellite (LANDSAT), Thematic Mapper (TM), Multispectral Scanner (MSS), Return Beam Vidicon (RBV) and Systeme Probatoir d'Observation de la Terre (SPOT) along with links to pages devoted to each of these observation methods. There is also information available on obtaining more images for each of these formats.



THE NASA/JPL IMAGING RADAR HOME PAGE:

http://southport.jpl.nasa.gov/

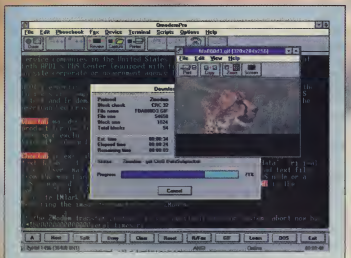
The Professional BBS Service Bureau

Bulletin Board Systems (BBS) are fast becoming a vital tool for information exchange in corporations, associations, government and other professional organizations. Yet the learning curve and related costs for an in-house installation are steep. Not to mention the staffing required for continuous user support.

APDI has the solution!

APDI will implement and operate your BBS at our state-of-the-art Service Center. We provide all of the hardware, software and communication facilities required to make your system successful. APDI also provides a fully staffed "help desk" to assist your callers in connecting to the service and navigating its functions. All you worry about is providing the data, keeping it current, marketing the service and reaping the benefits.

APDI operates dozens of successful professional BBSes. We assist in all phases of the project from BBS design to implementation to user support. APDI selects the BBS software which best fits your application. We also provide your users with multiple connect options including toll call, 800 number, Internet, and CompuServe's x.25 packet switching access. We can even allow access to your BBS via a World Wide Web Home Page! We have hundreds of fiber optic phone lines and will assign to your system the number you need. Call us today and find out why APDI is the nation's leading Professional BBS Service Bureau.



Online Full Text Searching

Need full text indexing and searching on your BBS?

APDI has the answer! APDI has developed Cheetah, the world's fastest and most powerful full text search program specifically designed for online systems.

Cheetah enables you to search online data collections using Boolean and proximity search phrases, searching megabytes of data in fractions of seconds. And Cheetah's interface, menus and setup are fully customizable to present your board's look-and-feel.

Searches may be conducted across one or multiple databases. Images may be attached to the data and unlimited hitlists are supported. Cheetah works with virtually all popular BBS programs.

Call us today to learn more about Cheetah!

Mark Burnett at APDI's BBS Service Bureau

ATTENTION: Consultants, VARS, Resellers

APDI announces its BBS Reseller Program!!!

Participate in the online revolution by providing your clients with customized Bulletin Board Systems operated by APDI.

You have the clients and contacts, you have the application knowledge and expertise. APDI has the resources to create and operate customized BBSs for your customers at our BBS Service Center. Let's work together!

Associations, Publishers, Financial Institutions, Corporations, Government Agencies... all have applications for online services which are easily cost justifiable. APDI will help you to recognize these applications and present a BBS solution. APDI then does the implementation and operation. You become a player in the online industry and incidentally, generate income.

Check our references and compare!

- CompuServe Network Systems Business Partner
- Certified Mustang Systems Integrator (Wildcat! Developer)
- Galactic comm Business Partner (Worldgroup Developer)
- Certified Novell Professional Developer
- Member of the Microsoft Foxpro Development Network

APDI™

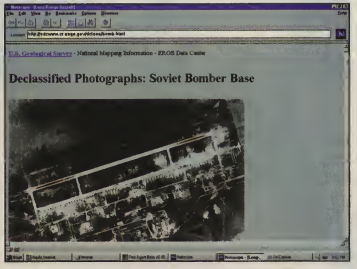
Application Programming & Development, Inc.
6805 Coolridge Drive, 2nd Floor
Camp Springs, MD 20748

1-800-785-APDI

(301) 449-1400 – Voice • (301) 449-6100 – BBS • (301) 449-1224 – Fax

Oooh, another cool page. I found this one day while the Space Shuttle was up and actually taking these images. Some of them were only a couple of hours old when I found them. Very cool!

This site has a gallery of images, videos and animations along with information on the Space Shuttle missions that carried the Spaceborne Radar Laboratory. It also has a radar remote sensing education area where you can find out about the SIR-C Educational CD-ROM online on the Web. Check out how to obtain radar images of many areas around the globe and get the sample data package for software developers. By filling out a license agreement, you can also receive JPL software for reading and analyzing radar data. Much, much more awaits you here.



DECLASSIFIED SATELLITE PHOTOGRAPHS:

http://edcwww.cr.usgs.gov/dclass/dclass.html

I always wondered what the CIA was using to get a good look at things going on around the world. Too bad that all of these images are from years gone by. I am not complaining, though; these photographs were just declassified in February of this year and are quite interesting. I hope more are posted in the future but the samples on this page are enough to warm the heart.

What you'll find is a sampling of these declassified images and access to the Declassified FTP Site with a few things not on the Web page. There is also a link to an online browser and catalog of declassified photos for when they become available.

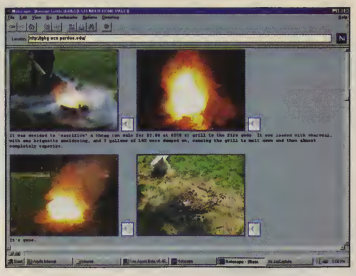
NUTSITE OF THE MONTH

I have been finding some really interesting sites that just don't fit into any category in the last few weeks. The scary ones go here. You'll see what I mean.

George Goble's EXTENDED HOME PAGE

http://ghg.ecn.purdue.edu/

Don't try this at home. Don't try this away from home. Don't do this, thinking I am telling you to. Don't try it, get hurt and



then blame anyone except for yourself for your very own stupidity. I can't say if this guy is nuts, but he certainly has them. I respect the fact that he has a Web site and everything, but anyone who plays kitchen-chemist with the stuff that helped launched Apollo is slightly bonkers.

What am I talking about? Take Liquid Oxygen (LOX), pour it in a bucket then throw it on a fire. Don't let it drip on you, lest you bust into a zillion frozen pieces, and hope that what you dump it on doesn't explode in your face or launch you skyward.

See this page. Experience for yourself, through videos and sounds, the fun one can have with LOX. See how a grill can disintegrate in seconds. Watch charcoal vaporize before your very eyes. Forest preserve rangers would be egregiously annoyed.

I would love to see it for real.

Enough for this month. These bookmarks should keep everyone pretty busy for a while. I urge everyone to visit the Babb's Bookmarks Homepage for these sites along with many more relating to space. I also have all of my past articles, linked and available for your mouse-clicking enjoyment. Always a treat. Always something new, or something. Links to these and other Babb's Bookmarks are available at the Aquila BBS/Internet WWW server at:

http://www.aquila.com/babbs.bookmarks/

I have been getting e-mail tipping me to new sites from a few people here and there. I'd like to see more! If you have a site you feel should be featured here or is a candidate for My NutSite or any comments in general, I'd love to hear about them. Feel free to e-mail me at:

chris.babb@aquila.com

Happy Surfing! ◆

THE BLUE BOOK OF HOMES

The largest single investment most of us make in a lifetime is the mud hut we live in. Buying a house or selling a house can be stressful - and often involves a good bit of money.

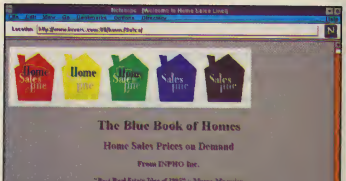
One of the strategies used to determine what price you should ask for your house when selling it, or conversely to determine what you should offer when buying one, is to examine "comps". Comps refers to "comparable sales" - similar properties in the same area that have actually sold during the last 6 months or a year, and what they sold for.

A company called INPHO, Inc. of Cambridge, Massachusetts has amassed a huge database of comparable sales data for some seven states plus eleven major metropolitan areas. And they can tell you the selling price of virtually any home sold in those areas back to 1990. Better, they have come up with an easy-to-use online method of doing so. They operate ***THE BLUE BOOK OF HOMES*** web page at **http://www.insure.com/home/Sales**.

This is a very simple page that allows you to enter a two-digit state code, the city or town, and select either a single address, a street with a block range, or a price range. You then also enter your credit card information and an e-mail address or fax number. Within one business day, they'll send you a list of comparable sales for that address or street by e-mail or fax. The charge - **$5.00**. Tack it on to the asking price.

The database contains **15 million** records and covers five years of history. They update it weekly with prices available four to six weeks after the sale. Currently it covers California, Connecticut, Colorado, Massachusetts, New Jersey, Ohio, and Rhode Island in total and selected metropolitan areas including Baltimore, Dallas, Detroit, Fort Worth, Houston, New York City, Phoenix, Miami, Fort Lauderdale, Tucson, and Washington D.C.

According to INPHO President Steven Kropper, the system will be fully interactive by September with their own domain address **home sales.com** . For now, you get the report by e-mail or fax. You can also do this with a touch tone phone at **800-IT SOLD 4 (800.487.6534)**. They also have a customer service line at **800-903-9033**. INPHO, Inc., 225 Fifth Street, Cambridge, MA 02142; **(617)868-7050** voice; **(617)868-5476** fax; Internet: **skropper@mcimail.com**; **http://www.insure.com/home/Sales**.



PUBLISHING ON THE WEB: PART 5.

By Michael Erwin

Last month we introduced you to CGI scripts. Remember what that stands for? Common Gateway Interface scripts—programs that run on the Web server and process clients' requests. This month I am going to show you what needs to be configured on your server to be able to work and process those CGI scripts and where to get your server and other scripts. So hang on, here we go.

First thing is, you need your own Web server. If you don't have your own Web server, go get one! Everyone else has one. Here is a listing of where to get one for your particular operating system.

Macintosh: **http://www.biap.com**
OS/2 Warp: **ftp://ftp.ibm.com**
Unix: **ftp://ftp.ncsa.uiuc.edu**
Windows: **http://www.alisa.com/win-httpd/**

Not to say that these are the only Web servers out there, but they are the most known and supported. If you don't have a Unix system and experience, try NCSA's *Win-HTTPD Server* written by Robert B. Denny. As you will learn all servers have pros and cons. The server you start out with will probably not be the one you will be using a year from now. For our purposes I will be using *WIN-HTTPD* for examples, but personally I prefer a Unix server for heavy commercial web applications.

When you unzip the server it will install basic server configuration files in the directory **C:\HTTPD\CONF**. We will look at and modify these files for our use. The first file we want to look at and maybe modify is the **HTTPD.CNF** file. This file is the main configuration file. It will look somewhat like Listing 1.

LISTING 1

```
# HTTPD.CNF
#
# Main server configuration for NCSA WinHttpd V1.3 (Windows)
#
# This is the main server configuration file. It is best to
# leave the directives in this file in the order they are in, or
# things may not go the way you'd like.
#
# Do NOT simply read the instructions here without understanding
# what they do, if you are unsure consult the online docs. You have
# been warned.
#
# NOTE: path defaults are relative to the server's installation
#       directory (ServerRoot). Paths should be given in Unix
#       format (using '/').
#
# Bob Denny <rdenny@netcom.com> 13-Aug-94
#
#
```

```
# ServerRoot: The directory the server's config, error, and log files
# are kept in. This should be specified on the startup command
# line.
#
# Format: ServerRoot <path>
#
# ServerRoot c:/httpd/

# Port: The port the standalone listens to. 80 is the network stan-
# dard.
#
# Port 80

# Timeout: The timeout applied to all network operations. If you are
# on
# a slow network, or are using a SLIP or PPP connection, you might
# try
# increasing this to 60 sec.
#
# Format: Timeout nn    (seconds)
#
# Timeout 30

# ServerAdmin: Your address, where problems with the server
# should be
# e-mailed.
#
# Format: ServerAdmin <email addr>
#
# ServerAdmin www-admin

# ErrorLog: The location of the error log file. If this does not start
# with / or a drive spec (recommended!), ServerRoot is prepended
# to it.
#
# Format: ErrorLog <path/file>
#
# ErrorLog logs/error.log

# TransferLog: The location of the transfer log file. If this does not
# start with / or a drive spec (recommended!), ServerRoot is
# prepended to it.
#
# Format: TransferLog <path/file>
#
# TransferLog logs/access.log

# ServerName allows you to set a host name which is sent back to
# clients for
# your server if it's different than the one the program would get
# (i.e. use
# "www" instead of the host's real name). Make sure your DNS is
# set up to
# alias the name to your system!
#
# Format: ServerName <domain name>
#
# no default
```

As this configuration file stands, your server will run. But as we all know, I can't leave well enough alone, so here goes some basic changes. Make a backup copy of **HTTPD.CNF** so that you can go back to the original as a reference.

First notice that most of the lines start with a # character.(Listing 2) In UNIX shell programming the # character means the same as a **REM** statement in MS-DOS batch files. Pretty simple right? Right. The first variable in the file is **ServerRoot**. (Listing 2) This is the directory where the server executable resides, and the rest of the server's directory starts. You should probably not change your server's root directory. It works well in **C:\HTTPD** so leave it there.

The next thing in the config file is what TCP/IP port will the Web request come in on. (Listing 2) This comes from the Unix world. Ports gives you the ability to do great and wonderful things on the same machine at the same time. For example, when you telnet to another host it will first establish the connection on port 23 of the other host. FTP is on ports 20 and 21, POP3 mail is normally on 110 and sometimes 109.

Gopher is on 70 and WWW servers are normally on port 80. But sometimes you might have multiple WWW servers or something else on that port. So, you might want to use port 8000, or 8080. Another point on TCP/IP ports is to think of them as an extension to the IP number. For example, one of the Web servers I work on is at 198.77.1.3.80. We will leave ours on Port 80, the default.

The next setting is **TIMEOUT**.(Listing 2) This is how long your server will try to talk to the browser at the other end. If you are trying to set up your server over a PPP or SLIP connection, the default of 30 seconds is just not enough, so up it to 60 or even 90 seconds. But if it takes longer than 60 seconds to send data to the browser, you should insert code to timeout and cancel the request. Over PPP and SLIP at 28.8Kbps, you cannot handle a thousand requests. So you will want to expand to a 56k dedicated connection, which can handle thousands of requests daily (unless you are sending huge files like JPEGs, MPEGs, GIFs and audio files).

The **ServerAdmin** variable is one that you will definitely want to change.(Listing 2) This is the EMAIL address that will be inserted into the error messages a server sends a browser when something goes wrong. I am changing this to **webmaster**. If the server administrators e-mail address is not on the same domain as the server, then you will need to add the `@whatever.com` to the end of the address.

The next few variables will tell the server what paths and filenames to use for Error and Transfer logs.(Listing 2) These paths will be appended to the ServerRoot path. The error logs will be saved to **C:\HTTPD\LOGS\ERROR.LOG**.We will leave this section alone. By the way, have you noticed that the normal backslash(\) has been replaced with a forward slash(/)? This is the way Unix handles the pathing. Since NCSA Win-HTTPD is based on NCSA's Unix HTTPD it makes sense to keep their syntaxes as compatible as possible.

The last setting in **HTTPD.CNF** is the ServerName. Let's set it to `www.whatever.com`. Why? Well for example `www.mountain.net`, a host I work with, is actually on a host named `access.mountain.net` with an alias of `www`. Same host, just different names. Remember to put this alias into your Domain Name Server for it to work correctly!

LISTING 2

```
# Our  HTTPD.CNF file.
# Main server configuration for NCSA WinHttpd V1.3 (Windows)
#
# Format: ServerRoot <path>
#
ServerRoot c:/httpd/

# Port: The port the standalone listens to. 80 is the network stan-
# dard.
#
Port 80

# Timeout: The timeout applied to all network operations. If you are
# on
# a slow network, or are using a SLIP or PPP connection, you might
# try
# increasing this to 60 sec.
#
# Format: Timeout nn    (seconds)
#
Timeout 60

# Format: ServerAdmin <email addr>
#
ServerAdmin webmaster

# ErrorLog: The location of the error log file. If this does not start
# with / or a drive spec (recommended!), ServerRoot is prepended
# to it.
#
```

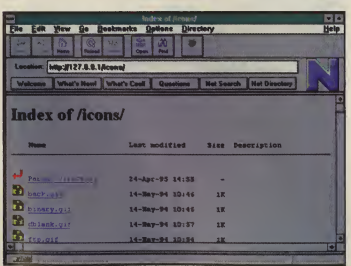
```
# Format: ErrorLog <path/file>
#
ErrorLog logs/error.log

# TransferLog: The location of the transfer log file. If this does not
# start with / or a drive spec (recommended!), ServerRoot is
# prepended to it.
#
# Format: TransferLog <path/file>
#
TransferLog logs/access.log

# ServerName allows you to set a host name which is sent back to
# clients for
# your server if it's different than the one the program would get
# (i.e. use
# "www" instead of the host's real name). Make sure your DNS is
# set up to
# alias the name to your system!
#
# Format: ServerName <domain name>
#
ServerName www.boardwatch.com
```

Now that we have finished editing **HTTPD.CNF**, we will take the plunge and look at the Server Resource configuration file, **SRM.CNF**. WARNING: do not be alarmed when you look at Listing 3, just remember we will break it down next. OK, you can look at listing 3 now.

Config files like **SRM.CNF** make you want to get into another line of work or hobby, doesn't it? Let's break this huge thing down. The first variable set in **SRM.CNF** is **DocumentRoot**. (Listing 3) This is the directory that the server will look into for the default documents. Remember when you request a URL like **http://www.boardwatch.com/index.htm**, the server looks into the DocumentRoot directory, **c:\httpd\htdocs** for the file **index.htm**. Look a few more lines down for DirectoryIndex.(Listing 3) This tells the server that if the browser doesn't request a file for a directory, send the browser the file **index.htm**, if it exists. That's why you can request the URL **http://www.boardwatch.com/** without any filename and you still get the **index.htm** file. Slick huh?



AccessFileName tells the server what file contains information on whether or not a browser client has right to a particular directory. Later in this series we will use this feature to implement security in documents.

The next section of **SRM.CNF** (Listing 3), Aliasing & Redirection, is kind of tricky, so bear with me on this. **Redirect** is the next variable. This takes the "fakename" and redirects it to another URL, i.e., to redirect **http://www.boardwatch.com/one/** to their new URL of **http://www.one.bbscon.com/** the entry would be entered like this: **Redirect /one/ http://www.one.bbscon.com/.**

Aliases are somewhat like Redirection. Instead of a directory being changed to another different URL, it tells the server that when it receives a request for an aliased directory, to get the requested document from the following directory. The **SRM.CNF**(Listing 3) show the directory **/icons/** to actually be in **c:\httpd\icons**. If we didn't do this, the icons would have to be **c:\httpd\htdocs\icons**, because the **DocumentRoot** variable set in **HTTPD.CNF**(Listing 2) tells the server where to start. Later on in **SRM.CNF** we will use this Alias to our advantage. Notice that you can have as many Alias(ed) items as you need in this area. While we are here..WARNING DO NOT alias your root directory, i.e., **Alias /junk/ c:/.** That just gave everyone in the world access to you entire **c:** drive. In the Unix world you can set rights so they can not get the farm, but DOS does not have a rights attribute for its directories and files. So BE CAREFUL.

The next area in the aliases section sets the aliases for the CGI server scripts.(Listing 3) **ScriptAlias** tells the server that the directory **c:\httpd\cgi-dos** is also known as **/cgi-dos/** and **/cgi-bin/**. I personally would only use the **/cgi-bin/** in my hyper-referenced documents. Why? Because **/cgi-bin/** is what everyone else uses and the **/cgi-dos/** tells everyone what type of system you are using. **ScriptAlias** and **WinScriptAlias** tell the server that it can also run the scripts in these directories. So it also means BE CAREFUL of what the scripts actually do.

Listing 3

```
# SRM.CNF
#
# Server resource configuration for NCSA WinHttpd V1.3
  (Windows)

# NOTE: path defaults are relative to the server's installation
#     directory (ServerRoot). Paths should be given in Unix
#     format (using '/').
#
# DocumentRoot: The directory out of which you will serve your
# documents. By default, all requests are taken from this directory,
# but
# aliases may be used to point to other locations.
#
# DocumentRoot c:/httpd/htdocs

# DirectoryIndex: Name of the file to use as a pre-written HTML
# directory index. This document, if present, will be opened when
# the
# server receives a request containing a URL for the directory,
# instead
# of generating a directory index.
#
# DirectoryIndex index.htm

# AccessFileName: The name of the file to look for in each directo-
# ry
# for access control information. This file should have a name
# which is
# blocked from appearing in server-generated indexes!
#
# AccessFileName #haccess.ctl

# ____________________________
# Aliasing and Redirection
# ____________________________
#
# Redirect allows you to tell clients about documents which used
# to exist in
# your server's namespace, but do not anymore. This allows you to
# tell the
# clients where to look for the relocated document.
#
# Format: Redirect fakename url
#

# Aliases: Add here as many aliases as you need, up to 20. One useful
```

```
# alias to heve is one for the peth to the icons used for the server-
# generated directory indexes. The peths given below in the
# AddIcon
# stetements are reletive.
#
# Format: Alias fekeneme reelname
#
Alias /icone/ c:/httpd/icone/

# ScriptAlias: This controle which directories contein DOS server
#              scripte.
#
# Format: ScriptAlias fekename reelneme
#
ScriptAlias /cgi-dos/ c:/httpd/cgi-doe/
ScriptAlias /cgi-bin/ c:/httpd/cgi-dos/

# WinScriptAlias: Thie controls which directories contain Windows
#                 server ecripte.
#
# Formet: WinScriptAlias fekeneme reelname
#
WinScriptAlias /cgi-win/ c:/httpd/cgi-win/

# ----------------------
# MIME Content Type Control
# ----------------------
# DefaultType is the defeult MIME type for documents which the
# server
# cannot find the type of from filename extensions.
#
# DefaultType text/html
DefaultType text/plain

# AddType allowe you to tweak MIME.TYP without actually editing
# it, or to
# make certain files to be certain types.
#
# Format: AddType type/subtype ext1
#

# ReedmeName is the neme of the README file the eerver will look
# for by
# default.  The server will first look for neme.htm, include it if
# found,
# end it will then look for neme.txt end include it as plaintext if
# found.
# NOTE: Do not include en explicit extension, it is en error.
#
# Format: ReadmeName name
#
ReadmeName #reedme

# ----------------------
# AUTOMATIC DIRECTORY INDEXING
# ----------------------
#
# FencyIndexing: Whether you went fancy directory indexing or
# standard
#
# FancyIndexing on

# IconsAreLinks: Whether the icons in e fancy index are links as
# well es the file nemes.
#
# IconsAreLinks off

# AddIcon tells the server which icon to show for different files or
# filename
# extensions. In preperation for the upcoming Chicago version, you
# should
# include explicit 3 character truncetions for 4-character endings.
# Don't
# rely on the DOS underpinnings to eliently truncete for you.
#
AddIcon /icons/text.gif    .html  .htm   .txt   .lnl
AddIcon /icons/image.gif   .gif   .jpg   .jpe   .jpeg  .xbm   .tiff  .tif
    .plc   .plct    .bmp
AddIcon /icons/sound.gif   .au    .wev   .snd
AddIcon /icons/movie.gif   .mpg   .mpe   .mpeg
AddIcon /icons/binery.gif  .bin   .exe   .bet   .dll
AddIcon /icons/back.gif    ..
AddIcon /icons/menu.gif    ^^DIRECTORY^^
AddIcon /icons/dblenk.gif  ^^BLANKICON^^

# DefeultIcon is which icon to show for files which do not heve en
# icon
# expilcitly set.
#
DefeultIcon /icons/unknown.gif

# AddDescription ellows you to place e short description after a file
# in
# server-genereted indexes. A better place for theee are in indivld-
# uel
# "#heccese.ctl" files in individuel directories.
#
# Formet: AddDescription "description" fileneme
#
# IndexIgnore is e set of filenames which directory indexing should
# ignore
# Here, I've disebled display of our reedme end eccese control
# filee,
# plus anything that eterts with a "~", which I use for annotetion
# HTML
# documents. I also heve disebled eome common editor backup file
# names.
# Metch is on file NAME.EXT only, end the usuel * and ? mete-chers
# epply.
#
# WARNING: Be sure to set en ignore for your eccese control
# file(s)!!
#
# Formet: IndexIgnore neme1 neme2...
#
IndexIgnore  ~* *.bek *.{* #readme.htm #haccess.ctl
```

Let's look at the MIME settings area. (Listing 3) **DefaultType** as stated in **SRM.CNF** will be set for text/plain. This tells the server that if it cannot find the file extension in the **MIME.TYP** file,(Listing 4) to tell the browser that the file is plain text. The client's browser needs this info to properly handle the files it receives from our server. Take a second to look down through **MIME.TYP**. **(Listing 4)**

Listing 4

```
# Edited by Bob Denny <rdenny@netcom.com>
# 07-Mey-1994
# Per comments received from Kevin Altis
#
epplicetion/ectivemessage
epplicetion/andrew-inset
epplicetion/applefile
epplicetion/etomicmeil
epplicetion/dce-rft
epplicetion/dec-dx
epplicetion/mec-binhex40
epplicetion/mecwriteil
epplicetion/msword                      doc
epplicetion/news-message-id
epplicetion/news-trensmission
epplicetion/octet-stream                bin
epplicetion/ode                         oda
epplicetion/pdf                         pdf
epplicetion/postscript                  el eps ps
epplicetion/remote-printing
epplicetion/rtf                         rtf
epplicetion/slate
epplicetion/mif                         mif
epplicetion/wita
epplicetion/wordperfect5.1
epplicetion/x-csh                       ceh
epplicetion/x-dvi                       dvl
epplicetion/x-hdf                       hdf
epplicetion/x-letex                     letex ltx
epplicetion/x-netcdf                    nc cdf
epplicetion/x-sh                        sh
epplicetion/x-tcl                       tcl
epplicetion/x-tex                       tex
epplicetion/x-texinfo                   texinfo texi txi
epplicetion/x-troff                     t tr roff
epplicetion/x-troff-men                 men
epplicetion/x-troff-me                  me
epplicetion/x-troff-ms                  ms
epplicetion/x-wele-eource               src
epplicetion/zip                         zip
epplicetion/x-bcplo                     bcplo
epplicetion/x-cplo                      cplo
epplicetion/x-gter                      gter
epplicetion/x-shar                      eher
epplicetion/x-sv4cplo                   ev4cplo
epplicetion/x-sv4crc                    sv4crc
epplicetion/tar                         ter
```

```
application/x-ustar             ustar
#
# Added for PC stuff
#
application/x-lzh               lzh
application/x-gzip              gz
#
audio/basic                     au snd
audio/x-aiff                    aif aiff aifc
audio/wav                       wav
image/gif                       gif
image/ief                       ief
image/jpeg                      jpeg jpg jpe
image/tiff                      tiff tif
image/x-cmu-raster              ras
image/x-portable-anymap         pnm
image/x-portable-bitmap         pbm
image/x-portable-graymap        pgm
image/x-portable-pixmap         ppm
image/x-rgb                     rgb
image/x-xbitmap                 xbm
image/x-xpixmap                 xpm
image/x-xwindowdump             xwd
message/external-body
message/news
message/partial
message/rfc822
multipart/alternative
multipart/appledouble
multipart/digest
multipart/mixed
multipart/parallel
text/html                       html htm
text/plain                      txt
text/richtext                   rtx
text/tab-separated-values       tsv
text/x-setext                   etx
video/mpeg                      mpeg mpg
mpe
video/quicktime                 qt mov
video/msvideo                   avi
video/x-sgi-movie               movie
```

The **AddType** variable in **SRM .CNF**(Listing 3) should not be used currently. So I will not enter it into the file. The **ReadmeName** variable tells the server what file to look for when getting a directory. This file will be added to the begining of the directory listing. This could be used like a **FILES.BBS** type of file for your Web server. Also there is a notice about using the **ReadmeName**, which is not to use specific extensions.

The last area of the **SRM.CNF** file is the Automatic Directory Indexing section. (Listing 3) If you didn't know, the server generates an index of a requested directory if **index.htm** (**DirectoryIndex**) does not exist and no filename is requested by the client's browser. This area tells the server how to generate that index.

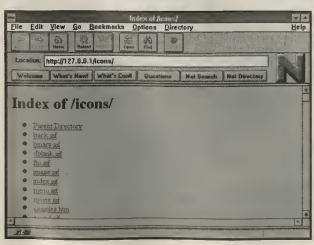
FancyIndexing tells the server whether or not to turn on Fancy Indexes. What's the difference? If **FancyIndexing** is on, the server will send icons for specific types of files. If you look a little further down in the Automatic Directory Indexing section (Listing 3), you'll see that it shows what icons to send with what specific file extension, using the **AddIcon** variable. For example, suppose you have a bunch of **MPEG** files. The server will generate code to send the **movie.gif** to represent what type of file that is. The screen shown in Figure 1 is an example of such auto-generated code.

If the file extension isn't listed in the **AddIcon** area it will generate code for the **DefaultIcon**.(Listing 3) Which in this case will be **unknown.gif**. By the way, did you notice how this file uses the **/icons/** directory alias?

We will not use the **AddDescription** variable in the **SRM.CNF**.(Listing 3) So leave it blank. We will cover the better way of handling automatic file descriptions next month.

The last but definitely not least of the variables in **SRM.CNF** is **IndexIgnore**. (Listing 3) This variable tells the server to ignore any file that meets the specified criteria. As you can see, **~* *.bak *.{* #readme.htm #haccess.ctl** will be ignored when the server generates code for the directory index. Make sure your **IndexIgnore** has at least what I have listed here in my **SRM.CNF**. (Listing 3)

You should be ready to start up your server. So from the program manager run **c:\httpd\httpd.exe**, and you will see your server is up and running. Cool! So this month we have set up our own Web server and did some basic configuration. And that wraps up this month's article. Next month we continue working on your server and setting up Image Maps. Till next month.



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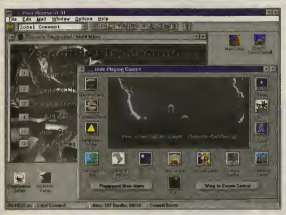

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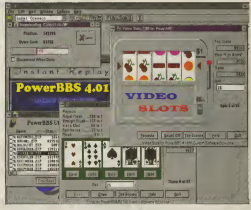

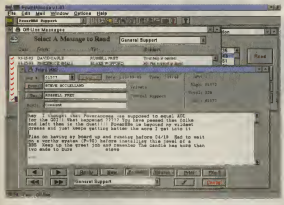

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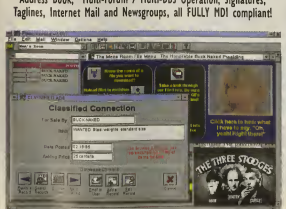

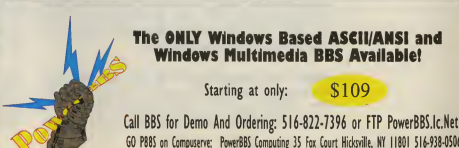

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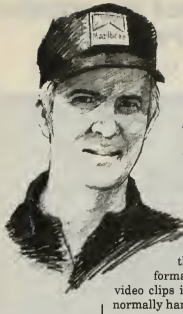


TECHNOLOGY FRONT

by Jim Thompson
Western News Service

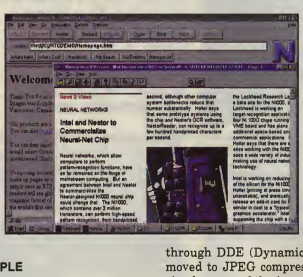
REAL TIMES — WEB TECHNOLOGY COMES TO THE BBS COMMUNITY

While the World Wide Web has been burning up the Internet and giving a new face to the online experience, traditional BBS operators have been somewhat left out in the cold. Providing pages which include formatted text, photos, graphics, sound and video clips is not something a traditional BBS can normally handle.

Although several client/server packages have been recently introduced, they do not offer the proper solution in all cases. Many of these packages require the sysop to create an entirely new system that may not be compatible with what he/she was using in the past.

Jim Thompson is Managing Editor of Western News Service in Los Angeles, California. He also manages the Marlboro Racing News BBS. CompuServe: 72777,2677, MCI Mail: 321-4127, INTERNET: jim.thompson@wnsnews.com

Imagen, Inc. has come up with a unique solution to the problem of providing fully formatted pages while still maintaining overall compatibility with an existing system. Their newest product, called *REAL TIMES*, allows any currently running BBS to offer fully-formatted, full-screen, magazine-style pages. These pages are also World Wide Web compatible.



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Imagen, Inc. has been known for their use of Fractal technology. Their *Fracterm* and *Fracwin* programs allow a BBS operator to offer 24-bit, full color, resolution-independent images. Resolution independence means that if you want to display an image on a larger monitor (for example, a 19-inch display) the fractal image will expand to fill the entire screen without the need to increase the file size of the image. The result is an image that looks as good when displayed as a thumbnail as it does when displayed full screen. This neat trick is possible while still maintaining a very small file size.

Anyone who knows me, also knows what a fan I am of this technology. With a 14.4-Kbps connection, a full color fractal image (20-Kb in size) can be transmitted, decompressed and displayed on a caller's terminal in less than 20 seconds. The actual time depends on the chosen compression quality (this can be as small as 5-Kb).

(EDITOR'S NOTE: See the July, 1993 issue of *Boardwatch* for Jim's review of Fracterm)

Imagen, Inc. is still offering *Fracterm* and *Fracwin*, but are now putting all their efforts into REAL TIMES.

"*REAL TIMES* is actually a superset of Fracwin. It contains an additional EXE file (RTC.EXE) which talks to *Fracwin* through DDE (Dynamic Data Exchange). We have moved to JPEG compression from Fractal compression because of the improvements made in this compression system. JPEG is now very fast and it is quickly becoming a standard in the industry. We think our customers are better served by the use of industry standard systems whenever possible," says Dwight Jones, CEO of Imagen, Inc.

HOST INDEPENDENT

On the BBS or Host side of the equation, REAL TIMES will work with any system that supports Zmodem transfers. This includes all the major DOS-based BBS packages as well as other platforms such as UNIX, Windows-NT and Macintosh.

The actual pages that are transmitted and displayed to callers can be composed in any word processor that supports the "Rich Text Format" (.RTF). Currently, Microsoft Word is the best such editor to

use, but it is by no means the only one available. Windows95 is scheduled to come with a built-in RTF editor. This will make creating formatted pages for transmission even easier.

MAGAZINE-STYLE PAGES

One big advantage here is that you can create pages that look exactly like a page in a magazine or newspaper. These are not Web (HTML) pages that have a polished appearance but basically all look alike. If you want to duplicate a page exactly as it appears in a magazine or create your own unique publication, you can do it with RTF.

The RTF format offers the ability to create multiple columns and multiple fonts in a single document. It is also extremely easy to add color, graphics, photos, sound and even video to documents. Best of all, HTML syntax and hypertext links are possible and easy to setup. Essentially, you are transmitting a compressed version of the exact same document that is created in the RTF editor. When received, the document is displayed just as it was created on the original machine.

"We do not concern ourselves with Postscript and fancy fonts. We utilize the standard fonts on every machine, and the results are uniform and predictable. And you can get the RTF file back after transmission, which is a powerful feature for WAIS and text databases," says Jones.

JPEG COMPRESSION

REAL TIMES uses **JPEG** (Joint Photographic Experts Group) compression from Accusoft which converts the original .RTF files to .RTC (Rich Text Compressed) files. The **.RTC** files are from 5 to 25 percent smaller than the original. In most cases, the compressed (transmitted) files are 10-Kb to 25-Kb in size. With a 14.4-Kbps connection, the compressed files are transmitted and displayed in 10 to 25 seconds.

Compressing **.RTF** files takes only a few seconds. Best of all, the compression program is built into the viewer. This viewer can be distributed, royalty-free, along with the terminal program. It provides all the tools needed to convert between the RTF and RTC formats. This is a key part of the program since it means that a caller can decompress the **.RTC** files and import them directly (as **.RTF** files) into their favorite word processor. Once in the word processor, there is full flexibility. The text can be searched and/or imported into other documents.

The viewer program works equally well both online and offline. So, even if a caller does not have a word processor that supports RTF, he/she has the ability to view the received documents at any time.

TERMINAL PROGRAM AND VIEWER

The heart of *REAL TIMES* is the terminal or client program. This consists of a Windows terminal program and a viewer. The terminal program is a basic Windows communications package which is based on Imagen's Fracwin program. This program can be used to call any system. It is not limited to calling *a REAL TIMES* host.

Included in the terminal program is the ability to send and receive files using Xmodem, Xmodem-1K, Ymodem, Ymodem G, Zmodem and Kermit. It also includes the ability to display images in just about every format including **FIF, JPEG, PCK, TIFF, TGA, GIF, WMF, WPF, EPS, PCT, BMP.** The program also allows one to convert between these formats. The one exception to this is that it will not convert from any of the formats to a Fractal Image (**.FIF**). However, a Fractal Image can be converted to any of the other formats.

The program also contains a dialing directory and allows for the opening of a capture file. The one thing that is lacking here is a basic scripting language, so you will have to remember and enter your own logon information for each BBS you call. Although the **.RTF** files can reside on and be sent from any platform (DOS, UNIX, Windows-NT, Macintosh) only a Windows terminal program is available. Dwight Jones of Imagen, Inc. says, "A Macintosh compression/decompression object is in preparation." Once this is available, Mac users will have the same functionality for using the RTC technology as Windows clients.

In addition to this basic communications program, the REAL TIMES package also contains an RTC viewer. This is a separate, external program that is fired up when needed to display an incoming **.RTC** document. This program can display **.RTC** files and convert between the **RTC** and **RTF** formats. This is an easy-to-use program that most users should find comfortable to operate.

The viewer (**RTC.EXE**) is also capable of enlarging or reducing the font size of displayed .RTC files. To make it easier to view formatted documents, both the Status bar (along the bottom of the screen) and the Tool bar (along the top of the screen) can be removed from the screen to provide a larger viewing area.

In the most common situation, a menu item on the host BBS for formatted pages is selected. This triggers a Zmodem download of a Table of Contents which would normally contain formatted text along with graphics and/or photos. Once received by the REAL TIMES terminal program, the RTC viewer is automatically launched. The received **.RTC** file is then displayed. The Table of Contents contains Hypertext links to additional documents. Selecting one of the linked documents (these are displayed in a contrasting color such as blue or green) triggers a Zmodem download of the selected document. Again, the file is displayed immediately upon receipt. A box displaying the download status is displayed as the file is received.

The decompression engine is very effective. Documents are decompressed and displayed within a couple of seconds. Since the documents are relatively small, they are transferred quickly (10-25 seconds, depending on the size and complexity of the document).

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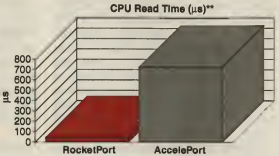

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SCO OK

yes If runs with UnixWare

yes NetWare Tested and Approved

*Based on published connect speed and retail price. All product and company names are trademarks of their respective companies.

** Measurement based on driver call times.

REAL TIMES ON THE WEB

Since the display program is separate, it can be used with other terminal programs. Most notably, it can be used as an external viewer for Mosaic, Netscape or other Web browsers. The current version, however, is not Object Oriented and therefore cannot communicate directly with a Web browser like Mosaic or Netscape.

"The object oriented program requires Windows95 and will be available when Microsoft releases that product. We expect our new version to be available sometime in the summer of '95," says Jones.

Currently, if you are running a Web browser like Netscape, you can select, for example, Byte Magazine from a Web Site. "A file (which is actually the entire publication) is sent to the caller and the Table of Contents is automatically displayed. You can move to other pages but only through the program itself. In this case, it is necessary for the whole publication to be downloaded in order for one to move from page to page," notes Jones. Once the magazine file is downloaded, it can be viewed offline.

When the Object Oriented version is available, the commands to retrieve a page will be sent directly to the Web browser program which in turn executes the orders. In this situation, only the requested pages are downloaded and only when requested. The difference is that the caller will not have to download the entire magazine, but only what is requested.

Of course, a caller to the Web must have the **RTC.EXE** program in order to display the *REAL TIMES* **.RTC** files. This is a small program (300Kb) and can be easily downloaded and used as an external viewer program.

According to Jones, "The whole problem has been that documents do not accept compressed image formats like JPEG. Imagen's RTC documents do, so we have a way to expand the look of documents on a WEB or BBS to full slick magazine status. Sound is also supported within the forthcoming Win95 code, to be released as an object."

CONCLUSIONS

REAL TIMES offers an effective yet delightfully simple method of providing full-screen, magazine-style pages on a BBS or Web site. One of the things I especially like is that it is so easy to maintain the pages. There is nothing complicated or convoluted about creating your online publication. If you can use a word processor and have a sense of what you want, you can create some spectacular looking pages.

Most sysops will also appreciate the fact that it is extremely easy to set up the system on the host side. Again, there is nothing complicated to get in the way of getting the job done. The files are also "host independent" which means they can be requested from any server.

I also like the fact that Imagen, Inc. is sticking to industry-standard components. The RTF format is available in most high-end Windows word processors. JPEG compression is the most widely used compression currently in use by newspapers, news organizations and imaging experts. The use of DDE (Dynamic Data Exchange) and support for Windows95 all illustrate Imagen's commitment to the future. This is a product that works exceptionally well now and has everything it needs to move forward into the future.

With its vision directed at the future, Imagen, Inc. is making this technology widely available. The compression/decompression viewer program (**RTC.EXE**) can be distributed by registered sysops free of charge. This program can be used in conjunction with the REAL TIMES terminal program and with other programs that allow for the use of external viewers such as Mosaic or Netscape.

To further make the technology widely available, Imagen, Inc. is offering REAL TIMES at a specially reduced price. The program normally sells for **$590**, but until the end of June, 1994, they are offering the full program for only **$99**. This includes the terminal and RTC viewer programs, which are customized with your BBS name and phone numbers, along with full documentation on how to get the system up and running. The price further includes the license to distribute the terminal and viewer programs at no charge. No matter how you cut it, this has to be one of the best bargains you'll find. ◆

CONTACT:_____

REAL TIMES
Imagen, Inc.
150 Maycock Road
Ganges, B.C. V8K 1N2
Canada
Tel: **(604)687-7511**
BBS Demo: **(604)687-1030**
Web Site: **http://www.imagen.net**

COST:_____

$99 until June 30, 1994.
Regular price: **$590**

USING REAL TIMES RTC ON THE WEB

All WEB browsers allow you to configure viewers for files whose extensions are not directly supported within the browser's own code. For example, most will decompress GIF and perhaps JPEG images, but you will require a decompression utility to view a TGA image.

In the same fashion, to enable viewing of **.RTC** documents, you would choose <O>ptions, for example, with Netscape, and tell the program where the **RTC.EXE** file is to be found to decompress **.RTC** files. This open architecture allows you to demonstrate almost any file format on the **WEB**.

Note that you cannot include hyperlinks within **.RTC** documents on the WEB as you can with a BBS. This is because there is no mechanism present to tell the browser to request another file via Zmodem. This feature requires our forthcoming object, working with the new object-oriented operating systems. Nonetheless, you need only use a standard WEB Home Page as your Table of Contents, and you can use this to link to the **RTC** pages and documents.

Hypertext links are possible on a BBS with REAL TIMES. To create such links, **HTML** syntax is inserted into a document as hidden text. **RTC.EXE** recognizes such HTML links, downloads the requested files and automatically displays them.◆

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MORE "MONEY" ON THE INTERNET

by Jack Rickard

Pursuant to our January, 1994 editorial "Mister Can You Spare a Chicken," calling for some form of Internet currency, we've come across a number of attempts to coin money in various data formats. All to date have had various flaws and inconveniences that have precluded their widespread adoption across the network.

The latest we've encountered was started in October of 1994 by a group titled FIRST VIRTUAL Holdings Incorporated as the result of a paper titled ***The Green Commerce Model*** released October 12, 1994 by Lee H. Stein of FIRST VIRTUAL Holdings Incorporated (**lstein@fv.com**), Einar A. Stefferud (**stef@nma.fv.com**), Nathaniel S. Borenstein (**nsb@nsb.fv.com**) and Marshall T. Rose (**mrose@dbc.fv.com**). Ignoring for the moment the now universal claim to be the "first" Internet payment system, the system is interesting.

First, FIRST VIRTUAL Holdings Incorporated is quite virtual. It doesn't exist geographically. No two principals in the company even share the same area code. It was incorporated in March, 1994 in Cheyenne Wyoming. The President and CEO, Lee Stein, is a 40 year-old San Diego lawyer more accomplished in real estate and entertainment. He met Einar Stefferud in an airport while Stefferud was using a wireless laptop to connect to the Internet. Stefferud started one of the first mailing lists on ARPANET in 1975 titled MsgGroup, which discussed electronic mail issues. Nathaniel Borenstein is the chief architect of the Multi-part Internet Mail Extension or MIME for electronic mail. And Marshall Rose has written six books on electronic mail - all uniformly horrid. The computers for FIRST VIRTUAL are in Westlake, Ohio. The 800 number is answered in Oregon. And the financial transactions are handled by a credit card service company in Dallas.

The system is fairly simple in operation. You basically exchange your credit card number and some e-mail information for a different and relatively harmless name and account identifier. In deference to the current mindless hysteria regarding credit card information, you "apply" for a buyer account either by electronic mail (**apply@card.com**) or via their telnet site at **telnet://telnet.card.com** or via Web at **http://www.fv.com**. But you telephone your credit card number and expiration date into an automated system using touch tone. It does cost "buyers" **$2** to register with the virtual bank.

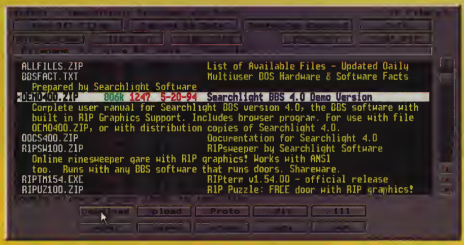
Subsequently, you can make purchases by giving online vendors your name and account identifier. The amount transferred is charged to your credit card of course. From the buyer's point of view, you can make purchases without revealing your credit card number and expiration date widely on the net; FIRST VIRTUAL acts as the keeper of the card number and debits your card. Given our cynicism regarding the entire credit card security issue, this is interesting but not terribly useful.

For sellers, the process offers some more concrete advantages - but some disadvantages as well. First, it is easy to become a seller. There is little in the way of qualifying or passing a credit check and nothing like the hurdles you must jump through to become a Master Card or Visa merchant. You have to have an e-mail address and a checking account. You send a check drawn on the account you want funds deposited to in the amount of **$10** to FIRST VIRTUAL and you are pretty much in. They deposit all transactions to your checking account - less **$0.29** and 2.0% of each transaction. This charge is really pretty analagous to what merchants pay on Master Card and Visa accounts (typically **$0.10** plus 2.5%.)

There is a bit of a hitch in all of this. As a vendor, you can "accept" a Name, Account Identifier, and amount from anyone. You simply fill out an electronic form and mail it into FIRST VIRTUAL. But before they debit the credit card and deposit the money in your "account," they send an e-mail "confirmation form" to the buyer. The buyer has to fill THIS out and return it to FIRST VIRTUAL.

As a result, the act of "paying" a vendor doesn't really result in payment until the buyer also "confirms" the payment by e-mail. Several vendors have elected to not provide information or other goods until they get notification from FIRST

Searchlight BBS...



Our RIP file manager lets you scroll anywhere in a directory...you can tag items and run commands by clicking with the mouse

The working scroll bars in *Searchlight 4.0* let you scroll through a message, file or directory list with your mouse. You can select messages, tag files, set options and run commands just by clicking with the mouse.

Searchlight 4.0 creates RIP menus on the fly, so you can build custom menus in seconds. And *Searchlight 4.0* is the only BBS program that displays RIP locally—so you see the same screens your callers do.

We do RIP better than anyone because we've been doing it longer than everyone. *Searchlight 3.0* was the world's first RIP-compatible BBS. *Searchlight 3.5* was the first BBS that generated RIP graphics—the first to offer scroll bars, pick lists and "on the fly" menus.

Searchlight 4.0 is the *only* BBS that displays local RIP. It's the *only* way to give callers a true GUI with no proprietary terminal.

And 90 days after TeleGrafix releases the RIP 2.0 protocol, we'll introduce *Searchlight 4.5*—the first BBS program that supports it.

When the first Bulletin Board Systems went online in 1978, graphical user interfaces didn't exist. Callers had to stare at text menus and memorize commands; there was no alternative.

Today, everyone prefers the dazzling screens that Windows and OS/2 provide...but most BBS programs still display the same drab, confusing text menus that the first programs did.

The information superhighway is full of exciting stops; no one has to call your BBS anymore. If they see cryptic text menus, they won't call back. You have to give callers the dazzling graphics and intuitive menus they prefer. That's why you need *Searchlight 4.0*.

"Searchlight is doing a marvelous job incorporating RIP into their BBS"

Boardwatch Magazine
July, 1994

RIP: We Show—Not Tell

The Remote Imaging Protocol by TeleGrafix gives callers the graphics and mouse support they expect; that's why callers prefer RIP. That's why BBS developers are scrambling to add RIP—and telling everyone that their RIP is "as good as Searchlight."

Well, talk is cheap—and seeing is believing. It's easy to see who the leader in RIP support is...look at our competition and keep asking: *"Where's the RIP?"*

Other companies love to tell you how good their RIP support is. But they hate to show it to you in their ads, brochures and test drives. They won't show you their RIP support because they know they can't match ours. Because nobody can.

Our direct video support lets you run any text-based DOS program as a door

you won't believe your GUIs!

Improvise Without Scripts

If you want custom menus, some companies make you buy their script language and write routines in it. That's not customizing—it's programming.

We think our engineers—not our sysops—should write the code. Our menu editor lets you put any command (we have over 100) on any menu. You can nest menus 40 levels deep and add doors to any menu—even build executable menus that run lists of commands.

The automatic menu generation in Searchlight 4.0 lets you turn any RIP screen into a custom menu

Then use our RIP styles editor to add buttons and wallpaper—we'll generate your menus on the fly. Or use your favorite RIP painting program to draw RIP screens...and let us put your menus on it.

If you want a custom BBS, we help you build it quickly and easily. When you buy *Searchlight 4.0*, you can leave the compiling to us.

Open Any Door

A hobby BBS might want to add external programs ("doors") so users can play online games. A business might need to let their users drop to DOS and run a custom application.

Some major BBS programs can't drop to DOS at all. Others force you to install a shell utility.

Searchlight 4.0's built-in DOS shell lets you run any text-based program (like FoxPro, dBase, Paradox or applications created with Clipper and Clarion) online. Just set a switch and forget it; we make running spreadsheets online as easy as 1-2-3.

"Searchlight remains one of the easiest BBS packages to set up and use; it is also one of the least expensive"

PC Magazine June 14, 1994

No Fine Print

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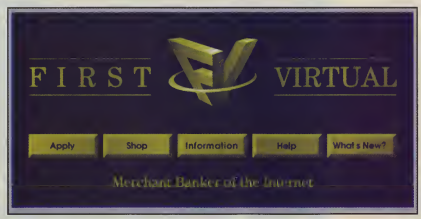
6516 Detroit Avenue
Cleveland, Ohio 44102

VIRTUAL that the customer has "confirmed" the order - this to prevent customers from "buying" a product and then simply not confirming the purchase. FIRST VIRTUAL "strongly discourages" this in sellers, but it is approximately inevitable. FIRST VIRTUAL is attempting to defer the responsibility to the vendor, and the vendor of course is attempting to defer it right back - and won't part with the goods until they can. The result is a flurry of electronic mail to actually perform a purchase. The buyer to the seller, the seller to FIRST VIRTUAL, FIRST VIRTUAL to the buyer, the buyer to FIRST VIRTUAL, and finally FIRST VIRTUAL to the seller. Only a true veteran Internaut of the old school could contrive such a mess - and Nathaniel Borenstein, Einar Stefferud, and Marshall Rose certainly qualify in this regard.



The advantages of the FIRST VIRTUAL approach are that it deals with real money - that is it is very quickly translatable to street cash. They can deal with currency translations with the service. And the transaction fees, while inappropriate for true pocket change $0.25 transactions, are modest and comparable to the existing credit card system. Humans can enter the pertinent information from a keyboard without a lot of pain and eyestrain. There is no data encryption involved at all. And it doesn't require a lot of technology. A basic e-mail address and capability pretty much accomplish it.

The disadvantage is that it is hopelessly awkward. It could take days to buy a cup of coffee. In actual practice, the server is of course automated and if the seller was also automated, it could all be done in a few minutes, by the buyer, but it does cause a flurry of e-mail. FIRST VIRTUAL does have a proposed Simple Green Commerce Protocol (SGCP) that has the potential to speed things up if a lot of software is written all the way around to use it. We found disturbing the fact that FIRST VIRTUAL names as one of its principal partners National Direct Marketing Corporation - a direct mail promotion company. As a FIRST VIRTUAL customer you may find your street mail box a bit bound up with offers ultimately.

The company currently lists about a dozen vendors who participate in the program. Most are selling information intangibles of various types. And FIRST VITUAL also operates an online mall for information products they call InfoHause at **http://www.infohouse.com**. The company is also quite proud that Apple Computer is offering its **$9.95** QUICKTIME video player update online and accepting FIRST VIRTUAL money in payment.

You can get more information by e-mail at **info@fv.com**. They do have an 800 number at **(800)570-0003** or can be reached at **(619)462-8359** with a fax at **(619)234-9502**. But if you have to walk up to the counter to complain, there simply isn't a street address for this very Virtual Bank.◆

DR. BOB by Bob Rankin

POWER TOOLS FOR THE INTERNET

The Internet is a lot like your basement. There's a lot of good stuff down there, but it's such a cluttered mess you can't find anything. However there are two key factors that make the Internet more appealing than your basement. First off, you never have to clean the Internet on a Saturday. And secondly, there are lots of nifty tools available to help you find what you're looking for on the Net.

So let's delve into Archie, Veronica and WAIS. Let's check out Netfind, Whois and Four11. Let's explore the Web with Lycos & WebCrawler and then get plugged into some cool databases that will find it if it's out there. These are the power tools of the Net Literate.

ARCHIE - THE FILE FINDER

If you could visit every anonymous FTP site on the Internet, capture the names of the files stored there and then slam it all together into a huge searchable catalog, you'd have Archie - almost. The folks at Bunyip Systems created a mechanism to do just that, and also provided software to do various kinds of searches against that catalog.

If you're looking for a program, image or other file, you'll fare best if you know the exact filename. But even if you can only guess at a few characters of the name, there's still hope. Let's say we're looking to secure the old enterprise with PGP software. The syntax for the archie "substring search" command would be:

archie -s pgp

This will find "**pgp**" anywhere in the filename. The archie output (see figure 1) tells you the file's site, directory and name so you can use FTP to pop off and retrieve it.

FIGURE 1

Host ftp.caprica.com

Location: /pub/qnx/POSIX/binary
FILE -r-xr-xr-x 166638 Apr 14 1994 pgp

Host ftp.wustl.edu

Location: /systems/ibmpc/garbo/crypt

FILE -r—r—r— 209679 Mar 6 1993 pgp22.zip
FILE -r—r—r— 62885 Oct 9 1993 pgpfront.zip
FILE -r—r—r— 65430 Aug 3 1993 pgpshe22.zip

Location: /systems/mac/info-mac/util

FILE -r—r—r— 323574 Apr 25 1993 pgp.hqx

If you don't have archie available locally, you can telnet to any of these addresses...

archie.rutgers.edu (USA)
archie.sura.net (USA)
archie.mcgill.ca (Canada)
archie.funet.fi (Finland)
archie.doc.ic.ac.uk (UK)
archie.wide.ad.jp (Japan)

...login as "archie" and then perform the same search by issuing:

set search sub
find pgp

There are all kinds of options for archie searches. Try **archie** with no parameters (or enter "help" if you're telnetting to a remote archie server) for details on syntax.

VERONICA - YOUR HOSTESS IN GOPHERSPACE

Veronica is a tool that helps you search for things stored on gopher servers around the world, like Archie does for FTP sites. The team of Foster and Barrie at the University of Nevada at Reno developed this extremely useful tool, whose name is actually an acronym (Very Easy Rodent-Oriented Netwide Index to Computer Archives) and probably a minor annoyance to Archie Comic Publications.

You can get to a Veronica server by gophering to **gopher.tc.umn.edu**, and then selecting "Other Gopher and Information Servers" and finally "Veronica". (If that link is down, try **info.umd.edu** or **cwis.usc.edu** and follow the (hopefully) obvious path to Veronica. Once you connect, you'll be greeted by a gopher menu which offers various types of searches as well as help on how to use Veronica. (see figure 2)

FIGURE 2

Search titles in Gopherspace using VERONICA

1. Frequently-Asked Questions (FAQ) about Veronica
2. How to Compose Veronica Queries
3. Search Directory by Title word(s) (via NYSERNet)
4. Search Directory by Title word(s) (via PSINet)
5. Search Directory by Title word(s) (via UNINETT/Bergen)
6. Search GopherSpace by Title word(s) (via NYSERNet)
7. Search GopherSpace by Title word(s) (via PSINet)
8. Search GopherSpace by Title word(s) (via UNINETT/Bergen)

Let's go for more info on PGP. A Veronica query with "Pretty Good Privacy" as the search string will likely turn up a couple dozen hits on which you can follow up. (see Figure 3).

FIGURE 3

Internet Gopher Information Client v2.0.15
Search GopherSpace by Title word(s): pretty good privacy

1. Pretty Good Privacy (PGP) version 2.3 release announcement
2. Re: Pretty Good Privacy book found in N. Calif ...
3. Where to get the latest PGP (Pretty Good Privacy) FAQ
4. PMail with PGP (pretty good privacy
5. Re: PMail with PGP (pretty good privacy
6. Pretty Good Privacy (PGP) information
7. PGP (Phils Pretty Good Privacy) - electronic mail encryption
8. pgp - Pretty Good Privacy - Public-key encryption

Note: You might want to try several of the listed Veronica search sites because all Veronicas are not equal! Some are infrequently updated, and some offer partial or censored catalogs for searching.

WAIS NOT, WANT

WAIS stands for Wide Area Information Service, and is a means of searching a set of over 500 indexed databases distributed across the Internet. The topics range from "Aboriginal Studies" to "Zipcodes" with lots of other interesting resources sandwiched in between.

Betcha can't wait to try one of these... We'll start by gophering to **gopher-gw.micro.umn.edu**, then select the "WAISes" item, and with a little luck we'll see a menu like the one in Figure 4. Select one of the listed options, pick a database and then specify your search words. And while you're WAISing, don't forget to check out that "NASA Space Warnings" database!

FIGURE 4

WAISes

1. List of all WAIS Sources/
2. READ THIS!
3. WAIS Databases sorted by Letter/
4. WAIS databases sorted by Subject

If you prefer a World Wide Web interface to WAIS, then try this server provided by Wais, Inc.:

http://server.wais.com/waisgate-announce.html

PEOPLE FINDERS

There are several good people looker-uppers available on the Net that can help you find someone's e-mail address, and sometimes other personal information too.

Let's look first at **NETFIND**, which searches a variety of white pages information sources. Telnet to **ds.internic.net**, login as "netfind" and then follow the instructions to perform a search. Generally you will have to provide a lastname and one or more keywords describing the person's location (company, organization, city, country, etc.).

NETFIND can also help you find domain names for geographical locations. Try a search of "xxx guam" and you'll see that the Internet extends even to the far reaches of the Pacific.

WHOIS is another database operated by InterNIC, but it contains mostly network administrator types and a few "notable" Net personalities. You can enter "whois rickard" at your shell prompt (telnet to **rs.internic.net** if you have no local whois) and you'll find that the Boardwatch editor falls into one of the aforementioned categories. (see Figure 5) A further query on the parenthetical "JR465" reveals even more shocking detail:

FIGURE 5

Rickard, Jack (JR465) jack.rickard@BOARDWATCH.COM

(303) 973-6038
Boardwatch Magazine
8500 West Bowles Ave.
Littleton, CO 80123

The FOUR11 ONLINE USER DIRECTORY is another Internet white pages service which can be used to look for someone's e-mail address or personal Web page. All Internet users are provided a free listing and access to the Four11 directory, which purports to hold data on over 1,000,000 users. Check it out on the Web at **http://www.Four11.com** or send e-mail to **info@FOUR11.com**.

And let's not overlook the handy USENET-ADDRESSES DATABASE at MIT which keeps tabs on everyone who has posted a message on USENET. Send e-mail to **mail-server@rtfm.mit.edu** and include this command ONLY in the BODY:

send usenet-addresses/<name>

Specify as much information as you can about the person (lastname, firstname, userid, site, etc.) to limit the amount of information that is returned to you. Here's a sample query to find the address of someone you think may be at Harvard University:

send usenet-addresses/Jane Doe Harvard

WEB SEARCHERS

There's a lot of great stuff out on the Web, but how do you find it? Well, just like Archie and Veronica help you search FTP and gopher sites, there are several search engines that have been developed to search for information on the Web. Here is the Doctor's prescription for which ones to use and which to pass on.

WEBCRAWLER is the brainchild of Brian Pinkerton at the University of Washington. This is a superfast search engine that always seems to be reachable and has a fairly large database that can find frogs, flowers and many other items of interest. Webcrawler can be found at:

http://webcrawler.cs.washington.edu/WebCrawler/

LYCOS is another excellent web searcher, hosted at Carnegie Mellon University. Lycos boasts over 3.3 million entries in its database and over 10 million answered queries. The fact that it's so big and so well-known often makes it hard to reach, though. Try your luck at:

http://lycos.cs.cmu.edu/

WORLD WIDE WEB WORM was voted "Best Navigational Tool" in the "Best of the Web '94" contest. But its database has not been updated since September 1994, which makes it of questionable value given the explosive growth of the WWW since then. Even so, it's worth a look because it offers several pages of hints to help with various types of searches. Hop over to:

http://www.cs.colorado.edu/home/mcbryan/WWWW.html

CUSI (Configurable Unified Search Engine) is a configurable search interface for many searchable WWW resources. It allows you to quickly check related resources, without having to navigate and retype the keywords. This is a good place to look for a description of various Internet search tools and which are best for specific tasks.

http://pubweb.nexor.co.uk/public/cusi/doc/list.html

The MULTI-THREADED QUERY service provided by Sun Microsystems is perfect for those who can't decide which search tool to use. It will throw your keywords at a whole bunch of searchers and report back the results. Of course the downside of this is that your search will take a long time, and you might get more hits than you can handle!

http://www.sun.fi/mtq/mtquery.html

NET CATALOGS

Not sure what you want? Here are four topical catalogs of "good stuff" that you can search. Wax up the board and hit the surf at:

Yahoo: **http://www.yahoo.com/**
EInet Galaxy: **http://www.einet.net/galaxy.html**
Whole Internet Catalog: **http://nearnet.gnn.com/wic**
CUI W3 Catalog: **http://cuiwww.unige.ch/**

LISTSERV TOOLS

Looking for a mailing list? Send e-mail to **LISTSERV@vml.nodak.edu** with

LIST GLOBAL /whatever

in the body of the message and you'll get a report on lists that match your keyword. You can also find "lists of lists" in the following places:

USENET: news.lists "Publicly_Accessible_Mailing_Lists" (14 parts)
FTP: rtfm.mit.edu; directory
/pub/usenet/news.answers/mail/mailing-lists

Did you know that many mailing lists have searchable archives? A very helpful document which details the commands used to subscribe, unsubscribe and search mailing list archives tells all. Send the command

GET MAILSER CMD NETTRAIN F=MAIL

in the body of a note to **LISTSERV@ubvm.cc.buffalo.edu**, and you'll receive the file by e-mail.

USENET NECESSITIES

A new service on the Web makes it possible to search USENET newsgroups for postings that contain keywords of interest to you. To search the last five days' worth of USENET drivel, zip on over to:

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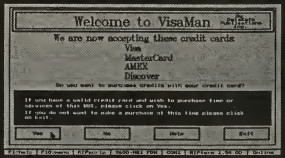

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- Optional sales tax
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http://ibd.ar.com/News/About.html

There's another service at Stanford University that allows you to "subscribe" and receive a daily list of newsgroup postings that match your search criteria. This used to work much better than it does now. I've found that it misses most of the posts I am looking for lately, and only delivers the hits a few times a week instead of daily - undoubtedly another victim of enormous popularity. Send mail to **netnews@db.stanford.edu** with the word HELP in the body of the message for full details.

If you're willing to pay for the privilege of searching several months' worth of Usenet postings, then INFOSEEK (**http://www.infoseek.com**) is the place to go.

MORE COOL DATABASES & ARCHIVES

On the Web:

MIDnet - **http://www.mid.net/**
NetSearch - **http://www.netweb.com/cortex/text.html**
800# Info - **http://harvest.cs.colorado.edu/brokers/800/query.html**
Stock Quotes - **http://www.quote.com/**
TV Listings - **http://tvnet.com/WhatsOnTonite/**
Thomas Legislative Server - **http://thomas.loc.gov/**

Via Gopher:

The Gopher Jewels Project: gopher to **cwis.usc.edu** and follow this path:

Other_Gophers_and_Information_Resources / Gophers_by_Subject / Gopher_Jewels

Clearinghouse of Subject-Oriented Internet Resource Guides:

gopher to una.hh.lib.umich.edu and select "inetdirs" (or via WWW at **http://www.lib.umich.edu/chhome.html**)

Fee-based Databases:

INFOSEEK: http://www.infoseek.com
DIALOG: telnet dialog.com (1-800-3DIALOG)
LEXIS: telnet lexis.meaddata.com (1-800-227-4908)

WEEP NO MORE...

Now you're prepared to find almost anything in cyberspace - that is if you've got a decent Internet connection offering telnet, gopher and WWW access. But even if you're stuck with a simple e-mail account, there's good news.

You can access almost all of the resources and search tools in this article by e-mail! "Accessing The Internet By E-Mail - Doctor Bob's Guide to Offline Internet Access" is my free guide that reveals all. To get the latest edition, send e-mail to one of the addresses below:

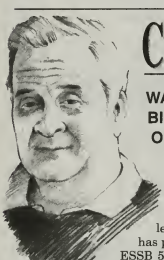
listserv@ubvm.cc.buffalo.edu (for US and Canada).

Enter only this line in the body of the note:

GET INTERNET BY-EMAIL NETTRAIN F=MAIL.

mail-server@rtfm.mit.edu (Worldwide). Enter only the following line in the body of the note:

send usenet/news.answers/internet-services/access-via-email.◆



COOK REPORT

WASHINGTON STATE BILL THREATENS MINORS' ONLINE ACCESS

by Gordon Cook

While the attention of the online community is focused at the federal level on the Exon anti-porn bill, an analogue has popped up in Washington state. Senate Bill ESSB 5466 - "an act relating to the well-being of children," passed the legislature on April 14. It goes now to a conference committee where changes made by the House on April 14 are expected to stick and thence to Governor Mike Lowrys' office for a signature anticipated during the month of May. The legislation would effectively hold BBS operators or Internet Service Providers liable for graphic or ASCII (descriptive) content placed on their systems by users and judged to be obscene - if that content were available to minors. Washington online service providers are saying they will either be forced to shut down because compliance is simply not feasible, or be forced to bar everyone 18 and under from access to their systems.

WHAT THE BILL DOES

The bill prohibits the display, sale, or distribution to minors of materials which are "harmful to minors." According to the legislative report accompanying the bill, material is deemed "harmful to minors" if it meets all three of the following tests:

"(1) the average adult person applying contemporary community standards would find it appeals to the prurient interest of minors;

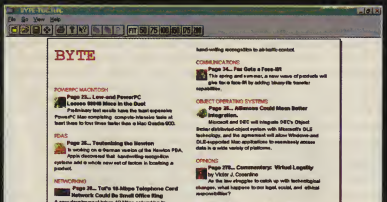
"(2) it explicitly depicts or describes, by prevailing standards in the adult community with respect to what is suitable for minors, patently offensive representations or descriptions of specifically defined conduct; and

"(3) when considered as a whole, it lacks serious literary, artistic, political, or scientific value for minors."

The bill's drafters apparently thought they were being reasonable in regard to the interests of the online community when they wrote:

"Matter is deemed not to be 'displayed' . . . in the case of online access to matter stored in an electronic form, if the matter is stored in a restricted area where access is allowed only to persons reasonably believed to be 18 years of age or older and who have obtained a password for access, or if restricted access is not possible, is stored in an area labeled 'adults only."

RTC HOME PAGES FOR ANY BBS OR WEB



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But on many loosely controlled BBSs, ftp sites, etc., it would be relatively easy for a user of a system to upload a piece of pornographic text to a file area and make the text universally readable. The only way to guard against this is to force system operators to read all ASCII text entering their system, an insupportable burden.

Furthermore, the language of the bill makes it possible for anyone who dislikes an online service provider to sabotage it by uploading objectionable text, then waiting two or three weeks before reporting it to the authorities. The bill renders the provider liable to fines of **$5,000** and one year in jail for each day that the offending material is "displayed." The person who places an offending file on a system is not liable; the operator is.

The bill also encourages providers to insist that users of their systems pass an age test, for it states: "It is also an affirmative defense that the person made a bona fide attempt to ascertain the true age of the minor by not relying solely on the oral allegations or apparent age of the minor." In other words, some piece of identification must be obtained and a record of doing so must be kept by the system operator to avert potential liability under this law - actions with privacy implications for all involved.

EFFORT TO EXEMPT ONLINE SERVICES OVERRIDDEN

The bill was introduced on March 1, 1995. On March 11, senators Bill Finkbeiner (R), Adam Smith (D) and Dean Sutherland (D) added the following amendment:

"(3) A provider of online services that allows another person access to information stored in an electronic form, such as an electronic bulletin board or the Internet. For purposes of this subsection, a 'provider' means a person who is in the business of providing access to information stored in an electronic form but who has no ability to control the content of the information and no ability to limit or restrict the viewing or displaying of such information."

Senator Finkbeiner's district includes Microsoft's headquarters. Senator Sutherland is referred to by local pundits as "the Senator from US West." These senators, who represent major telecommunications interests, were trying to save the online industry from poorly conceived legislation. On March 11, the bill with the above amendment passed the state Senate with only five votes in opposition.

Jeff Michka, a freelance technical writer and operator of a small BBS in Washington state, told us that as the bill moved to the House in mid April, queries from the online community were met with assurances that there was nothing to be concerned about. However, on April 14th the House passed the bill 75 to 14, stripping from it not only the amendment exempting online services but also exemptions for sound recordings, transmissions by cable operators, public school instructional materials, health care providers, contraceptive devices, and depictions of breast feeding.

In further conversations with state Senate staffers, we learned that the three members of the House who orchestrated the striking of the exemption amendment were Represenatives Lois McMahan (R), Larry Sheahan (R) and Tim Sheldon (R). We also were told that there was a belief that no one on the Senate side would be able to intercede in restoring the exemption for online services in the face of demands from a rabidly conservative Republican House.

A year ago, Governor Mike Lowry vetoed a bill that was purportedly "worse" than ESSB 5466. He waited to act until the legislature was out of session in 1994. This year, the legislation was passed at the end of the session - giving him the opportunity for another such veto. But staffers speculated that the leadership would not have waited until the end of the session had not it had an agreement with the Governor that he would do nothing worse than veto only amendments to the legislation. Unfortunately, the bill's inclusion of online services is woven into the fabric of the bill in such a way that he could not veto only that one aspect without vetoing the entire bill. The harm was done by striking the Senate amendment of March 11. The only way the Governor can try to reverse that action is by vetoing the entire bill.

On April 20, Martin Munguia, Assistant Communications Director for Governor Lowry, returned our phone call. He told us that the Governor was hopeful that positive changes would be made by conference committee, and that he anticipated the final version would be on the Governor's desk by the weekend. The Governor would then have 20 days to sign or veto the legislation.

While the legislature's regular session ends on April 23, Munguia said the legislature would be called back into special session over other issues. He listened to the concerns about the bill that we had raised and stated that he believed that the seriousness of these implications were not well understood by the governor's office. He also assured us that while the Governor was in no hurry to sign the legislation, the legislature very likely had the votes to override a veto. Would the calendar allow such an opportunity? Very likely, according to Munguia, because the special session could continue into June. Perhaps the only hope in keeping the Internet from being barred to people under the age of 18 in the state of Washington was a strong educational campaign directed at the governor's office.

REACTIONS FROM ONLINE SERVICE PROVIDERS

One might expect negative reactions to this bill from Microsoft Corp., headquartered in Redmond, Washington. Bill Gates is "displeased," to put it mildly, and is making his discontent widely known in the state's press.

Jeff Michka, who runs a small community based BBS just north of Seattle, told us:

"I'm going to have to shut down WCIS because I have neither the time nor resources to comply - let alone the willingness to look at everyone's mail and files - when this becomes law.

"Staying open (as a BBS) - particularly if you have any kind of public profile or are political - will be risky at best. Even keyword searching would probably not do the trick. I mean, what do you search for? "Child?" "little boys?" "sex?" What? Try any keywording against, say, a full USENET feed. All it takes is that one missed message or file to get the authorities knocking at your door. As it is, both Bob Dinse (owner of Eskimo, from whom I get my link to the Internet) and I voice validate our users, which is a real hassle, but tends (most of the time) to avoid problems.

"I've had quite a few '50 year olds who turn out to be 10 years old when I get mom or dad answering the phone. However, even if you attempted to use - as an example - a Driver's License number to 'prove' age, then providers and operators would have a repository of what I would call sensitive information to maintain and keep secure. To that end, compliance would be another bro-

ken layer of user privacy - and possible violations of same - if, for example, you get hacked. A driver's license validation would also be difficult to administer, requiring constant contact with (the) State DMV and so on."

On April 20th we received the following reaction to Senate Bill ESSB 5466 from Bob Denise, owner of **eskimo.com**:

"If this bill passes," said Denise, "Eskimo North will become an18-and-over-only system. I think it would be a shame to take away the resources of the Web, etc., from youngsters, but there is no practical way to comply with the proposed law. Right now, while we have 2700 subscribers, I have one employee.

"Since IRC (Internet Relay Chat) is real-time, there is no practical way to censor it. We'd have to eliminate it for under-18-year-olds. Consider E-mail. If we did censor it, we'd be in violation of federal laws, so again, we'd have to eliminate it for all 18-year old and younger users."

"Telnet/ftp - there is no practical way to filter which sites are OK and which aren't, there are more than 20 million people on the net now. We can't possibly personally review each and every one, and even if we could, they aren't static. In other words, what is clean today might not be tomorrow.

"World Wide Web - the very nature of this distributed information system makes it impossible to effectively censor, and yet it is a tremendous resource to the young mind. You can find extensive information about almost anything. I'm very interested in physics, the nature of physical reality, and until the advent of the net, and especially the web, this information was unavailable to the laymen, and if our wonderful legislators have their way it may be unavailable to anyone under 18 again.

"The same is true of gopher, and many other network services. Talk/ntalk is real-time. Therefore we can't censor it. We'd have to eliminate it. Also I-phone, who knows what dirty things people might speak.

"USENET, over 12,000 groups, probably 100 of them contain material that might fit into the category covered by SB5466. But the news software itself has no provisions for controlling access by user. So we'd either have to eliminate all the adult oriented groups, or take news access away from minors. And to insure these services were eliminated, we'd need to eliminate shell access, compilers, etc, because otherwise people would simply compile the tools and make them available themselves.

"In short, by the time we came reasonably close to complying with the law, there would be no meaningful access left to those younger than 18, so we will instead just eliminate access to 18 and under altogether if we are forced to operate under this bill. It's about time, in my view, society started to adapt to the reality of the information age, instead of trying to force reality to adapt to society. If not, this country is going to be left behind. This state, if it passes this bill, will put its children at a real educational disadvantage by denying them the ability to participate in the Internet in a meaningful way."

The COOK Report believes that providers had better wake up and realize that political education at their state as well as national level will become as important to their survival as measured usage charging and the quality and reliability of their routers, modems and terminal servers.◆

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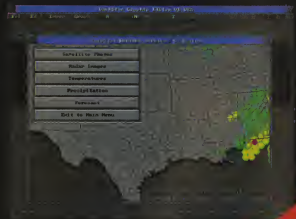

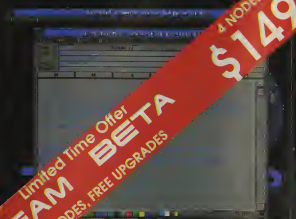

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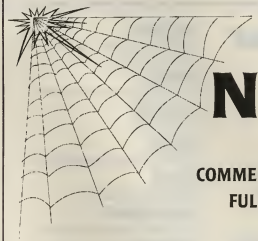

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PCBOARD V15.22 FOR DOS OR OS/2 RELEASED

Clark Development Company announced that PCBoard v15.22 will start shipping June 4, in a new OS/2 edition as well as MS-DOS. The new release is the second major upgrade to PCBoard since V15.2 was released last September. V15.22 includes preconfigured templates for corporate, sales, tech-support or hobby BBSs, allowing first-time users to set up a fully functioning system in as little as 10 minutes. Enhancements have been made to PCBoard's Internet UUCP Gateway, Programming Language, Fido Mailer System and PCBMail — PCBoard's Windows-based e-mail client.

The UUCP gateway now includes inbound LISTSERV support. Internet List Servers allow anyone with an e-mail address to subscribe to special-interest mailing lists or any USENET newsgroup, even if their host BBS does not carry it. The normal result of having users subscribe individually to such lists is a proliferation of multiple copies of messages, a waste of the BBS' system resources. PCBoard V15.22 can import all e-mail received from a server into a sysop-defined conference, where all users — not just the ones who subscribe to the list or newsgroup —can read a single copy of each message.

The PCBoard Programming Language (PPL) has new functions such as CONFINFO which allows read/write access to all fields in the conference configuration, ASCII, ANSI, & RIP graphics support, user-definable menus with hot keys, multi-channel chat, text search on all bulletins, message bases and file areas, CD-ROM support, multiport serial card support, local and network logins from any DOS network.

Special prices are available until June 30, 1995, ranging from 2 nodes for **$99** to 1,000 nodes for **$6,899**.

The OS/2 edition of V15.22 is a 32-bit, multi-threaded, native OS/2 application. According to the company, tests have demonstrated "significant increases in performance, while utilizing fewer system resources than the DOS version." Both platforms are identical in functionality and features, allowing them to coexist on the same network as part of the same BBS.

V15.22, in its DOS and OS/2 editions, will be released at Cyber.Xpo in Las Vegas on June 4. For further information, contact Clark Development Co.: **(801)261-1686** or **(800)356-1686** voice; a free demo copy of PCBoard can be downloaded from **(801)261-8976**, the Salt Air BBS.◆

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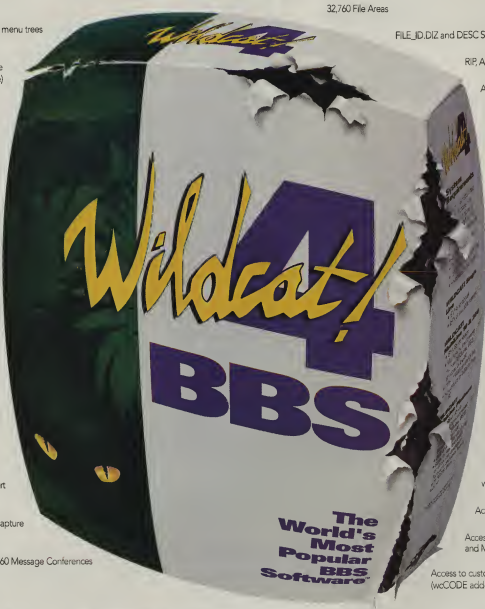

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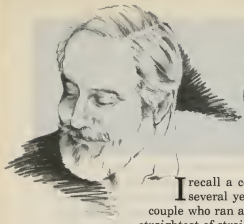

GOVERNMENT ACCESS

by Jim Warren

CYBERSEX: POLITICAL PROBLEMS; TECHNOLOGICAL SOLUTIONS

I recall a conversation at ONE BBSCON several years ago, with a cleancut young couple who ran a mid-west BBS. These were the straightest of straight citizens of the Heartland — he was pink-cheeked and clean-shaven in pressed slacks and starched shirt; she wore a longish, conservative skirt and high-neck, frilly blouse with a nice gold cross on her necklace.

As we talked, they coyly disclosed that a significant part of the traffic on their home-business BBS was erotic chat. The wifely half of the couple said with a shy grin, "Everyone thinks that he" — nodding to her husband — "writes the more explicit postings, but actually I write all of it."

If this nice young couple represents the vile pornographers and evil pedophiles who are going to lead the nation into hell and damnation, then I'd hate to see the *bad* guys.

POST-CHILDHOOD CONTENT

Like the VCR industry before it, cottage-industry BBS operations often depend on offering adult content in order to break even financially — personal chat, private forums, global USENET alt.sex newsgroups and "erotic" images and multimedia ranging from dowdy house-spouses blimping out of too-old two-piece bathing suits to hardcore for the raunchiest of diverse personal preferences.

Ignoring reality, and usually based on personal and staff ignorance, some federal and state legislators seem intent on making damn sure that this nation's shared and globally-networked computer systems will be as rigidly censored as in any Islamic fundamentalist dictatorship — dumbed-down to pabulum acceptable to the least common denominator.

SOUNDLESS SPEECH, INKLESS PRESS

Censor-prone politicians — pandering to the minority of their constituents who know what's good for everyone else — have introduced and sometimes passed legislation that ignores First Amendment constitutional protections.

They assume that once-free speech becomes unprotected if it uses electron waves rather than sound waves; that previously-protected press becomes government-suppressed if it uses glowing photons rather than ink on post-forest, pre-landfill paper; and that once-permitted assembly of citizens can now be regulated if they dare to disclose details disapproved by the government.

And just think how easily local, state or federal zealots can chill formerly-protected freedom of expression, once the half-billion-dollar national wiretap system is completed by 1997, to say nothing of the expanded surveillance options now being sought by the FBI and the Clinton administration, especially now that the Republicans have gutted the exclusionary rule that prohibited illegally-obtained evidence.

EXON'S S.314 ALTERNATIVES

You may have heard of Senate Bill 314 by Senators Jim Exon (D-NE) and Slade Gorton (R-WA), the "Communications Decency Act of 1995." It would make anyone who "makes, transmits, or otherwise makes available any comment, request, suggestion, proposal, image, or other communication which is obscene, lewd, lascivious, filthy, or indecent" by means of any "telecommunications device" subject to a fine not to exceed $100,000 or imprisonment not to exceed two years, or both.

Senator Pressler's (R-SD) Commerce, Science & Transportation Committee adopted S. 314 without discussion, as part of the massive Telecommunications "Reform" Act of 1995 (Senate Bill 652) — ignoring the 100,000-plus people who had electronically "signed" a petition opposing the bill. After all — as one caller to Exon's office was told — there was an organization supporting the bill — something like the American Family Association.

As of this on-deadline writing in late April, the Exon obscenity has four possibilities:

1. A majority of the Congress will commit political suicide by publicly voting to remove "communications decency" from the telecomm deform <*sic*> act.

2. The cat-fighting corporate giants that are feuding over who gets to monopolize which part of cyberspace via the telecomm act will come unglued, killing the "reform" act of 1995 exactly like their feud killed telecomm "reform" in 1994 — and trash the Exon oppression in the process. However, we can't expect this to happen until the members of Congress squeeze the last kilobuck out of the various telecomm lobbyists. (Incidentally, Exon had inserted the same mandate in the ill-fated 1994 telecomm act.)

Jim Warren, 1995. May be copied-in-full at any time, in any form, provided this notice is included and no fee is charged for the specific copy nor for a paper publication of which it is a part.

Warren [345 Swett Rd., Woodside CA 94062; e-mail: //jwarren@well.com] received the Hugh M. Hefner First-Amendment Award from the Playboy Foundation (1994), and the James Madison Freedom-of-information Award from the Society of Professional Journalists - Northern California (1994) for his efforts to open online access to government. He received the Electronic Frontier Foundation's Pioneer Award in its first year (1992); founded *InfoWorld* and the Computers, Freedom & Privacy conferences (1991); was founding host of PBS television's "Computer Chronicles" (1981) and founding Editor of *Dr. Dobb's Journal of Computing* (1976).

3. The congress-creatures who gather behind closed doors in the House-Senate conference committee that will negotiate what the telecomm reform act will really look like, will glance at the Bill of Rights and quietly delete the Exon censorship section.

INDECENT CURRENT LAW

Even if the Exon amendment is defeated, the "obscene, lewd, lascivious, filthy, or indecent" prohibition is *already law!* — applicable to all "communications by means of telephone" that makes any nasty "comment, request, suggestion or proposal."

It's part of 47 USC 223 — a code section originally designed for the laudable purpose of deterring "obscene or harassing telephone calls," but with its actual statutory language perverted to be mandated censorship.

(Interestingly, if it's "any obscene communication for *commercial* purposes" and the originator restricts "access to the prohibited communication to persons 18 years of age or older" per FCC regulatory procedures, then that's okay. You didn't think Congress would outlaw the telco's 900 and 976 per-minute profits, did you?)

The problems with the Exon amendment are two-fold:

1. Spoken words under current law are much more difficult to prove than will be digital communications under the Exon repression — especially recognizing that most host-computer administrators routinely archive all files on a nightly basis as part of assuring good system reliability.

2. Exon expands the censorship to include images and any "other communication" that's nasty — in someone's opinion.

Regardless of whether Exon is enacted, prosecutors could probably use the current law to harass and intimidate any user or system owner into suppressing questionable communications — if they wanted to bother.

Fortunately, most federal prosecutors have more important crimes to pursue — except, of course for those wanting to make a name for themselves.

For example, in 1990, podunk District Attorney Jimmy Evans of Montgomery, Alabama, was eye-balling the state Attorney General's office and needed to gain some fame. So he convened a special grand jury, had them indict General Telephone & Electronics, U.S. Satellite, GTE Spacenet and New York City's Exxxtasy Channel for 50 counts of violating Alabama's obscenity law. Seems they had broadcast a fully-scrambled satellite pay-channel and Jimmy had discovered how to receive it in his hometown.

Indictments were returned against the chairmen of GTE Spacenet and U.S. Satellite and seven others — but no one in Alabama — and Evans demanded that the New York Governor extradite some of them to Alabama.

Within a month the Exxxtasy Channel was off the air, and several weeks later the R-rated Tuxxedo Channel was bounced from the Hughes bird by their equally-spineless executives. Jimmy got his fame — and imposed his local community standards on the entire nation.

WASHINGTON STATE'S NEW LAW

Maybe you've never seen an actual obscenity law. Here's a just-passed example that includes online services: On April 23rd, Washington's state legislature passed state Senate Bill 5466 by Senators Smith, Oke, Heavey, Winsley and Franklin.

It defines, "harmful to minors" as meaning "any matter or live performance"

"(a) That the average adult person, applying contemporary community standards, would find, when considered as a whole, appeals to the prurient interest of minors; and

"(b) That explicitly depicts or describes, by prevailing standards in the adult community with respect to what is suitable for minors, patently offensive representations or descriptions of:

"(i) Ultimate sexual acts, normal or perverted, actual or simulated; or

"(ii) Masturbation, fellatio, cunnilingus, bestiality, excretory functions, lewd exhibition of the genitals or genital area; sexually explicit conduct, sexual excitement, or sexually explicit nudity; or

"(iii) Sexual acts that are violent or destructive, [naming several examples]; and

"(c) That, when considered as a whole, and in the context in which it is used, lacks serious literary, artistic, political, or scientific value for minors."

"Matter" includes film, tape, etc., and, "Any other *medium used to electronically transmit or reproduce images on a screen.*"

It makes it a crime to

"(1) Display matter that is harmful to minors in a variety of ways, but says:

"In the case of online accessibility to information stored in an electronic form, a person shall be deemed not to have displayed matter harmful to minors if:

"(a) The matter is stored in a restricted area where access is allowed only to persons who are reasonably believed to be eighteen years of age or older based on information supplied [as specified] and who have obtained a password or other authorization necessary for access to the matter; or

"(b) It is not reasonably possible to restrict access in the manner described in (a) of this subsection;

"(2) Sell, furnish, present, distribute, allow to view or hear, or otherwise disseminate to a minor, with or without consideration, any matter that is harmful to minors [as defined]; or allow them to see a live performance."

It allows exceptions for such actions by or with written permission of "the minor's parent or legal guardian, *for bona fide purposes*;" or when "The person made a reasonable bona fide attempt to ascertain the true age of the minor by requiring production of a driver's license, marriage license, birth certificate, or other governmental or educational identification card or paper, or copy thereof if supplied by mail or electronic facsimile when in-person production thereof is impractical, and not relying solely on the oral allegations or apparent age of the minor."

The law doesn't apply if the distribution is "by a recognized historical society or museum, a library of a college or

university, or an archive or library under the supervision and control of the state, county, municipality, or other political subdivision of the state."

Ridding itself of *local* local community standards, the bill declares, "The state of Washington hereby fully occupies and preempts within the boundaries of the state the entire field of regulation and sanctions for displaying, selling, furnishing, presenting, or otherwise distributing matter or performances that are harmful to minors," preempting any current local ordinances and prohibiting new ones.

OTHER STATES

California has half a dozen bills seeking to restrict access to sexual content in one form or another, including Assembly Bill 295 (Baldwin, R-Lemon Grove), AB 871 (Baldwin and Conroy, R-Orange) — which passed their first committee votes — and two bills that failed their first votes, AB 1200 (Morrissey, R-Santa Ana) that would have prohibited public exposure of everything including costumes, and AB 776 that would have switched from a state-wide "community standard" to separate standards for each tiny local community.

Let me know what's happening in your state.

TECHNOLOGICAL SOLUTIONS

There *are* problems concerning electronic access to sexual content and proposals — most of them concerning children or unwanted harassment, usually of women. None of the problems have complete solutions, and all of the solutions posed hereafter have limits — not the least of which is kids' ability to circumvent all adult controls.

Nonetheless, these solutions are worth doing — if for no other reason than to present them to legislative bodies to show that the net is seeking to provide its own protections, before politicians impose their more draconian "solutions."

Some of these offer excellent entrepreneurial opportunities:

Filters. Reader software for users can permit self-censorship of offensive text. It might include bozo filters that automatically reject messages from addresses specified by the user. Or it could scan all incoming text and "X"-out words and phrases that the user specifies as being offensive. The filter lists should be passworded for adult control.

Blockers. Reader software can be developed for parents, teachers and librarians to install on desktop computers used by children, students or patrons, that limit the sites and/or addressees to which the users are permitted to have access. Web browsers need such blocking options, preferably under password control. Such limits could be inclusive or exclusive — allowing the supervising person to specify what addresses are accessible, or what addresses are blocked.

Tracers. For those parents and teachers who wish to monitor where their children are going and who they are playing with, reader software could maintain passworded lists of all user-ids, site-names and file-names accessed by each child. Those who are offended by such parental or teacher oversight need not use them.

For people who are being harassed, reader software might be designed and warranted to retain a certified copy of all such transactions for use as evidence in criminal prosecution or civil litigation.

My personal feeling is that such child and adult monitoring software should clearly declare itself upon initial log-in or first-contact, but then again, I prefer that police cruisers have clear markings and obvious red-lights.

User-ids and domain-names. Most sysops that offer adult content — at least those who hope to stay out of jail — are more-than-willing to prohibit access by children. But they need to be able to identify minors, just as adult-store operators need to be able to identify kids.

Parents and institutions that provide user-ids for children could include "kid" as part of the user-id, such as "`kid.jim`". Schools could choose domain-names that include "K12" as part of their names. Then, sysops of adult sites could easily reject access for such user-ids and domain-names, just like restricted video sections, adult bookstores and strip joints. Additionally, this would allow children to identify other children — and would provide strong evidence of intent against a suspected pedophile who adopted a child or school id.

Similarly, operators wishing to offer adult content could choose separate logical domain-names that include "xx" and "xxx" as a dot-delimited part of the site's name. Then parents, schools and libraries could use blocking or filtering software to prohibit access to clearly-marked adult sites.

Of course, this would allow kids to more-easily find the adult sites, and allow the rare pedophile to identify children — but that simply reflects the real world.

User and site lists. Most direct-mail solicitors subscribe to the Direct Marketing Association's service that lists addressees who don't want to receive such solicitations, and regularly purge their lists of all such addressees on a voluntary basis.

There could be a user-name site that maintains a directory of all user-ids declared as belonging to minors — perhaps provided by parents or schools. And there could be a site-name directory that lists all adult sites. Both of these could be implemented — preferably before politicians start imposing much more repressive mandates.

Various groups — the Moral Majority, the Sexual Freedom League, COYOTE (the prostitute's organization, Cut Out Your Old Tired Ethics), etc. — could maintain their own lists of "recommended" and "offensive" sites. Police or the FBI could maintain a directory of the names and other identifying information of "known sex offenders," that filtering and blocking software could then check — if such information is mandated to be a matter of public record rather than a matter of personal privacy.

Hollywood, the music industry and the various adult industries have recognized the need for imposing their own standards and ratings — before politicians did it to them. These are not perfect solutions, but at least they show good faith. E-mail your own suggestions to me for sharing with everyone.

It's time to protect our online community. ◆

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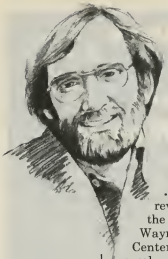

EDUCATION LINK by Rea Andrew Redd

FIDO/K-12Net: RURAL GATEWAY TO THE GLOBAL VILLAGE

Jack Crawford (**jcc@aruba.nysaes.cornell.edu** or **jack@rochgte.fidonet.org**) offers his assessment of a revolution that is going on under the noses of the powers that be. Crawford represents the Wayne-Finger Lakes Area Teacher Resource Center of Newark, NY. He sees the "have not" rural communities being empowered by a no-fee, local call, non-governmental service that lacks exploitative commercialism. Most of us explore the Internet's BBSs at our leisure, using free university accounts or local call/commercial online services. Crawford understands that rural people are not in the habit of using online resources because the "meter is running."

Rea Andrew Redd lives and works in southwestern Pennsylvania where he manages a high school library, teaches European history and Scholastic Achievement Test preparation. On occasion, he reenacts American Civil War battles with the Ninth Pennsylvania Reserves, an historic, military impression unit. E-mail Rea at: **zedd@genesis.duq.edu**

Crawford characterizes this revolution as a bicycle path next to the information highway; it's a sensible way for the "have-nots" of the world to start learning how to ride that bicycle so that someday, they'll want a Harley. He has set up and provided technical support to over a dozen schools within sixty minutes of where he lives in western New York state, a place he characterizes as "cow pastures, cornfields and long distance phone bills."

Crawford is excited about FIDONet. "As of February, 1995, FIDONet is a worldwide community of nearly 35,000 inter-networked, yet independently owned, operated and funded electronic Bulletin Board Systems.," reports Crawford. Roughly half of these BBSs are in the U.S. and "any medium-sized rural town in the U.S. probably has at least one FIDONet BBS that is open to the general public with no fees."

FIDONet gives the users of its member BBSs the ability to swap e-mail with anyone on any other FIDONet BBS or the Internet. FIDONet BBSs can also exchange binary files using a technique called "FREQing" ("File REQuesting") that minimizes long-distance service charges and promotes the exchange of shareware, public domain software, and other non-mail files.

FIDONet technology is "surprisingly sophisticated yet still amazingly affordable." If not free, FIDO BBS system software is generally found to be cheaper than a dirt sandwich; obstacles such as multiple phone lines and local area network environments are usually dealt with in an adequate manner by FIDO software. Crawford can put together the equipment, budget and technical expertise required to set up and maintain a FIDONet BBS capable of serving the students, teachers and taxpayers of a rural community for about **$1,300**. This figure includes startup costs, software, a modem and a brand new computer; the price drops if used equipment is put into service. Telephone lines can be voice-grade. Substantial network content to serve the entire community costs less than a dollar. Technical expertise is developed locally; students looking for career-related experiences in the telecommunications industry are recruited.

K12Net is a collection of echomail conferences carried by approximately 600 FIDO BBS's. Topics include elementary and secondary school curriculum, three dozen conferences that offer traditional lesson plans and classroom projects appear on K12Net. Crawford is familiar with schools that use 'sneaker net' technology that allows students in classrooms without phone lines or modems to ride adequately on this particular 'bicycle path'. "FIDO/K12Net may not have the Web-wonder or the gopher-glitter of the real-time Internet or commercial services" states Crawford, but it is an affordable way of obtaining e-mail, news groups and file libraries without a budget-wrecking purchase of hardware, software or services.

To obtain more information on FIDONet write to Jack Crawford, Wayne-Finger Lakes Area Teacher Resource Center, 10 Eisenhower Hall, 703 East Maple Street, Newark, NY, 14513-1863. He invites phone calls (**315-331-1584**), faxes (**315-331-1587**), and FIDONet e-mail (**1:260/620**) or e-mail at the addresses in the first paragraph.

"WHAT I LEARNED ON MY SUMMER VACATION": INTERNET BASIC TRAINING FOR EDUCATORS

Wentworth Worldwide Media (WWM), publisher of *Classroom Connect* has offered ten seminars in Pennsylvania, Texas, and Florida within the past three months. The response to these one day workshops has been favorable among those educators who are looking for an introduction to the Internet and its potential in education. Topics include: how to get connected, World Wide Web tour, the 'hows and wheres' of finding funds, how to send and receive e-mail, how to access online lesson plans and other startup essentials.

The following sites are announced for June through July:

June 6 and 7, Bowling Green and Lexington, KY
June 8 and 9, Memphis and Nashville, TN
June 13 and 14, Phoenix, AZ
June 15 and 16, Denver, CO
June 27 and 28, Atlanta, GA
July 11, 12, 14, and 15, Sacramento, Bakersfield, Los Angeles, and San Diego, CA
July 19 and 20, Salt Lake City, UT
July 25 and 26, Richmond, and Roanoke, VA
July 27, Washington, D.C.

Cost is **$149** for a single registration and **$129** for two or more. To register, or for more information, call Tony Brewer (**800-393-4241**) or send a fax to him (**717-393-5752**) or e-mail him (**semainars@wentworth.com**). You can also visit WWM's Web site by pointing your Web browser to **http://www/wentworth.com**.

MEMO FROM THE DOWN-IN-THE-TRENCHES DEPARTMENT: CLASSROOM CONNECT DELIVERS THE GOODS

One of the better guides to K-12 curriculum using the Internet and commercial online services is a publication which will soon be celebrating its first birthday. *Classroom Connect* this spring offered first-person accounts from seven educators of how their schools put the Internet to work. Librarians, computer lab educators, and classroom teachers offered practical insights into a variety of school situations. Ranging from a seventh grade classroom instructor's cooperative approach to a librarian's goal of creating 300, grades 3 to 6, independent Internet users, these first hand accounts are exciting reading.

From *Classroom Connect*'s "Internet Education Resources" page you can find Internet site addresses that will please both instructors and students. A Stanford University bibliography database of Martin Luther King which lists almost 3,000 references, a University of Wisconsin archive of song lyrics and discographies of classical, folk, and popular artists, and a listserv which is a low-volume, high-content mailing list for teachers who use computers in all educational areas are just several of the addresses offered. *Classroom Connect* has a World Wide Web (WWW) site; there you can find sample articles and featured hyperlinks to valuable education sites on the Web (**http://www.wentworth.com**). Send e-mail to Amy Young (**connect @wentworth.com**) and ask for a fax of the March issue's pages 1 and 4 for the educator's first-hand accounts and the Resource File Folder page for the Internet Educational Resources. If you want to talk to her personally call **(717)393-1000** or send her some fat mail at Wentworth Worldwide Media, 1866 Colonial Village Lane, P.O. Box 10488, Lancaster, PA 17605-0488.

GETTING STARTED: THE CRASH COURSE

If you are starting to explore the world of electronic education, you may be asking yourself: Can I get this in a graduate course that will cover my certification requirements? The University of Pittsburgh's School of Library and Information Science (SLIS) may have just what you need. A portion of their tenth annual Institute for Librarians and Teachers Serving Youth presents information technology and Internet workshops. Thirteen workshops, offered on a revolving basis from July 10 through August 4, are available for **$125** each. In six-and-a-half-hour segments, both Internet and the World Wide Web, from connecting the net to your classroom to using HyperText Mark-up Language to create a home page, are explored from an educator's perspective. Integrating the Internet into the K-12 curriculum, developing policies and procedures, and searching reference resources are several of the topics presented in the university's SLIS computer lab and taught by SLIS faculty and university librarians. For more information contact Joyce Mitchell with a voice phone call (**412-624-9460**) or send e-mail (**joyce @lis.pitt.edu**).

IF YOU RUN OUT OF THINGS FOR THE KIDS TO DO . . .

. . . Set them up with an issue of *Popular Mechanics*. Starting in March of this year the Hearst-owned magazine went on the World Wide Web. Their first effort was a six page article entitled, "Everyone's Guide to the Internet," a good reading assignment for any beginner's class on electronic education. The article discusses and lists twelve titles and URLs for home pages such as the Hearst Multimedia Newsstand (**http://mmnewsstand.com**) and the Internet Underground Music Archive (**http://sunsite.unc.edu/ianc/index.html**). You can find *Popular Mechanics* at **http://popularmechanics.com**.

NOW THAT WE'VE MISSED IT . . .

. . . and now that we educators have that nine weeks of so-called 'summer vacation' to catch up on our correspondence, we should send some e-mail to **sac@apple.com** and get the low-down on the second annual "The Ties That Bind: Converging Communities" conference which occurred last month in Cuppertino, CA. The Morino Institute (1800 Robert Fulton Drive, Suite 550, Reston, VA 22091) and the Apple Library of Tomorrow (4 Infinite Loop MS 304-2A, Cuppertino, CA) hosted what appears to be an educator's paradise of a conference; electronic issues such as WWW publishing, community networks, town meetings, newspapers, libraries, and rural connectivity were addressed.

WHERE ON THE GLOBE IS ROGER?

Speaking of summertime e-mail correspondence, we should send Roger Williams a note (**where_is_roger @bonita.cerf.fred.org**). This aviator and Vietnam veteran is taking two years to travel through Japan, China, and Russia. Williams is equipped with a ComputerEyes image digitizer that enables him to send video snapshots of his travels. As Williams travels the globe, you can plot his travels, read his dispatches, ask him questions, and make friends with the students in the places he visits. His vision is to get children around the globe interested in communicating with children in the U.S. and to foster better understanding between countries and cultures. Williams hopes that international communication between children will enable them to find a better way to deal with problems in the future rather than resorting to armed conflict. For ways to use Williams' travels in your social studies classes contact The Global SchoolNet Foundation (voice **619-931-5939** or fax **619-931-5934** or snail mail 7040 Avenida Encinas 104-281, Carlsbad, CA 92009).◆

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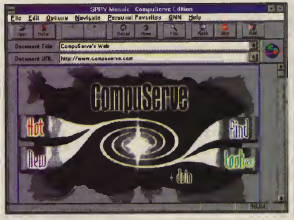
COMPUSERVE by Wallace Wang

CompuServe wants to re-establish its dominant leadership in the online market so badly that they've spent $100 million to purchase Spry Inc., publisher of the popular Internet in a Box software. Suddenly CompuServe is one of the largest Internet providers in the world. To convince people to use CompuServe for all their online needs, CompuServe is even giving away free copies of Spry's Mosaic program for Windows (dubbed NetLauncher for Windows) to all subscribers. (**GO NETLAUNCHER**.)



With NetLauncher for Windows, you can browse the World Wide Web, access USENET newsgroups, or use FTP and gopher services directly through CompuServe. For those Internet purists who cringe at the thought of wading past CompuServe to get into the Internet, relax. NetLauncher for Windows goes directly through CompuServe to the Internet so you won't even notice you're connected to CompuServe.

In case you prefer the comfort of surfing the Internet through CompuServe's WinCIM program, you can. If you haven't already received a copy of WinCIM version 1.4 with your monthly CompuServe magazine, you can download a copy free of all connect time charges by using the **GO WINCIM** keyword.

Even Macintosh and OS/2 users can access the World Wide Web through CompuServe. If you have a Macintosh, you need a Web browser (such as NCSA Mosaic), MacTCP (included in Macintosh System 7.5), and MacPPP. For OS/2 users, just use IBM's WebExplorer.

No matter how you connect to CompuServe (WinCIM, DOSCIM, MacCIM, TapCIS, OzCIS, Procomm, etc.), everyone can take advantage of CompuServe's expanded Internet services. For telnet access, type **GO TELNET**. For FTP access (only if you're using WinCIM, DOSCIM, or MacCIM), type GO FTP. For Usenet newsgroup access, type **GO USENET**.

Since Internet USENET newsgroups are notorious for offering information ranging from the innocent (goldfish breeding) to subjects that get TV evangelists in trouble, CompuServe lists the more "acceptable" newsgroups in menus. If you want to access a naughtier newsgroup, you can, but you have to know the exact name to use (which should effectively prevent most adults from finding them but prove just a minor inconvenience for their kids).

Naturally, CompuServe's sudden about-face and full bear-hug embrace of the Internet might make you wonder how much all of this is going to cost you. If you belong to the standard pricing plan, your **$9.95**/month membership fee automatically includes three free hours of Internet access per month (in addition to unlimited access to CompuServe's 120 basic services). Additional hours of Internet use get billed at **$2.50**/hour.

For Internet addicts, join CompuServe's Internet Club, which offers basic CompuServe membership plus 20 hours of access to Internet services for a **$24.95** monthly fee. Additional Internet hours will be billed to club members at **$1.95**/hour. As a rough guideline, if you use the Internet more than nine hours a month, you'll save money by joining the CompuServe Internet Club.

Given CompuServe's lower and competitive rates along with their expanded Internet offerings, CompuServe may finally shed their exclusive (translate that to mean "expensive") image which branded their CompuServe Information Services acronym as CI$.

CANADIAN, MEXICAN, ISRAELI FORUMS DEBUT

If you think the only difference between an American and a Canadian is the reinstatement of the draft, visit the Canada forum (**GO CANADA**) and get a new perspective on a country that's nearly as large as Russia. Here you'll find graphics and text describing some of

Canada's best tourist locations along the Atlantic coastline that hardly anyone in the United States even knows about.

View actual hotel accommodations, national park locations, and breathtaking sights of Canadian wildlife through the wonders of GIF files and digitized photographs. Given Canada's favorable currency exchange with the American dollar, a trip to Canada might be a pleasant and inexpensive surprise — but only if you know where to look.

For those who would rather look south of the border, visit the Mexico forum (**GO MEXICO**). Besides tourism information, you'll also find the complete text of various NAFTA documents, discussions on the falling value of the Mexican peso, how-to guides for doing business in Mexico, and conferences for debating the pros and cons of increased border patrols along the American and Mexican borders. If you want to know how to make authentic Mexican Avocado soup, you'll find that information in this forum too.

True to Mexico's bilingual nature, most text in the forum appears in Spanish with some text in English. If you want to practice your Spanish (or English) in a forum that promises "We won't laugh at your Spanish if you won't laugh at our English," the Mexico forum is the place for you to meet new friends, discuss Mexican politics, and share the excitement of Mexican soccer and bullfighting. Jumping halfway around the world, visit the Israel forum (GO ISRAEL). This forum comes jam-packed with Hebrew software, information about travel and tourism, how to deal with anti-Semitism, Israeli history, and even classified ads from Israel where you can find a new business partner, book a tour of the Holy Land, or meet single Jewish people.

CNN ONLINE

CNN, the world's first 24 hour news network has expanded into CompuServe with CNN Online (**GO CNN**). CNN Online consists of several parts. The CNN Forum (**GO CNNFORUM**) is where members can chat about the latest news, from the NBA playoffs and the effect of the baseball strike on the American public to the latest information about the Oklahoma City bombing and the O.J. Simpson trial

If you'd rather read the news than discuss it, dig into the CNN Forum and download CNN reports, news trivia, Factoids, or the latest CNN poll. For those who can't get enough of the news on TV, you can even order transcripts and videotapes so you can bury yourself in so much news that you won't have any time to do anything else (except order more transcripts and videotapes from CNN).

For those who can't resist talk shows (or for those who can't shut up), visit CNN's TalkBack Live Forum (**GO TALKBACK**). Every weekday at 1:00 p.m. (Eastern time), TalkBack Live hosts an hour long town hall meeting with CNN's Susan Rok. You can toss in your ideas through forum messages or (for those brave folks unafraid of speaking up) through the daily, simultaneous online conferences. CNN regularly incorporates comments from the message board and the conferences, so you might see your words appear on TV one day.

Given American's unquenchable thirst for more news about O.J. Simpson, visit the special O.J. Forum (**GO O.J. SIMPSON**) and discuss your ideas about the latest (and often comical) breakthroughs in the O.J. Simpson murder case. Find out the newest hair styles worn by the prosecuting lawyers, the latest racist comment uttered by the defense, or the current childish battles among the jurors to see who gets the corner seat next to the rest room. In short, learn everything about the O.J. trial except the actual facts surrounding the case.

Besides chatting (screaming) at fellow CompuServe members, you can also use the O.J. Forum to download and study actual court documents. Did the Los Angeles police follow correct evidence collecting procedures? Or was every police officer in Los Angeles conspiring to frame O.J. Simpson? By playing "Who dunnit?" with your friends, family, and enemies, you can spend an endless amount of time debating a topic that only lawyers get paid millions to think about.

For the latest news about CNN Online, visit "WHAT'S NEW on CNN," which provides the latest forum changes, the most recent additions to the CNN file libraries, and notices of upcoming live conferences with newsmakers, experts or CNN anchors.

In case you want to download digitized images of CNN's latest photographs, visit "CNN Images" and view snapshots of the top headline stories such as maps and aerial photos of the Oklahoma City bombing or race results from the America's Cup.

Now that CNN has moved into the online age, don't scream at your television screen if you don't like something CNN does. Leave your comments directly in the "Talk to CNN" area where you can comment on CNN programming. Ask for more irrelevant facts that won't affect the O.J. trial. Clamor for more close-ups of people you don't like. Yell for accurate sports statistics on professional wrestling. If you have something to say to CNN, take advantage of their presence on CompuServe and type away. With CNN Online, you can become part of their 24 hour news coverage instead of being a passive spectator. ◆

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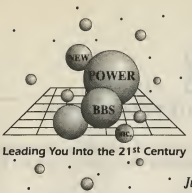

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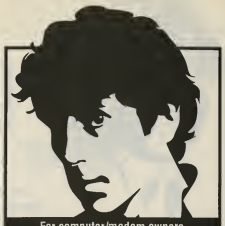

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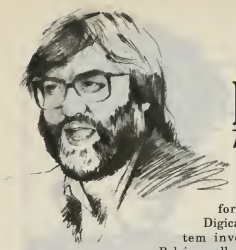


LEGALLY ONLINE

by Lance Rose

ANONYMITY ONLINE: ITS VALUE, AND ITS SOCIAL COSTS

The online world presents a number of opportunities for people to go under cover. Digicash, an electronic money system invented by David Chaum of Belgium, allows people to buy things online without revealing their identities — just like using hard cash. In USENET, people vent their opinions in newsgroups without showing their faces, using anonymous remailer services to cover their tracks. In role-playing environments on BBSs and MUDs, people parade around in all kinds of identities, none of which may correspond in sex, psychology or temperament with their physical personas. Electronic voting and polling systems are being designed to determine our preferences without finding out who we are.

Lance Rose is an attorney practicing high-tech and information law in Montclair, NJ with the firm Lance Rose & Associates. He can be found on the Internet at **elrose@well.com**, and on Compuserve at **72230,2044**. He is also author of *NetLaw*, the online legal guide, published by Osborne/McGraw-Hill and available at better book stores everywhere.

These examples illustrate that anonymity is an important feature of the online environment. But just what is "anonymity?" Is it the same as privacy? Not exactly. Being anonymous means you can act in socially significant ways without being identified, while having your privacy means removing yourself from social environments. That said, there is certainly a strong relation between the two; when you're anonymous, it can be said that you're keeping your identity private from others. Many of the social issues presented to us every day as "privacy" issues, such as the problems of large companies keeping databases on consumer lifestyles, and whether government should use Social Security numbers and other identifiers to keep track of us, are really "anonymity" issues. They are rooted in our desire to move through the world without a trace, when that is our preference.

What about "pseudonymity" — acting under a name or identity different from your own? This can also be seen as a form of anonymity, since people don't know the "real" you when they take your pseudonymous identity on the Net at face value (a theme explored in Vernor Vinge's excellent sci-fi story *True Names*). But at the same time, your pseudonymous persona can take on a life of his or her own. At that point anonymity vanishes, because the new, pseudonymous entity is a real person in his or her own right as far as other people are concerned (a theme explored in Orson Scott Card's excellent sci-fi story *Ender's Game*).

To understand anonymity on the Net beyond merely defining it, we must move on to ask about its value to society. Does anonymity have a positive social value, or is it just some kid's game, a way to hide from responsibility? This question was at the core of *McIntyre v. Ohio Elections Commission*, a case decided by the U.S. Supreme Court just as we went to press this month.

The case concerned the political efforts of Ohio resident Margaret McIntyre. She created leaflets opposing a proposed school tax levy on her home computer, and distributed them at meetings on the measure held at a local school. Some of the handbills identified her as the author, some did not. A school official at the meeting, who supported the tax proposal, told Ms. McIntyre that the anonymous handbills violated an Ohio election law requiring all printed materials directed at political matters to include information identifying their publisher. She disregarded this advice, and distributed her materials again at subsequent meetings. The tax levy in question ultimately passed after three votes, foiling Ms. McIntyre's efforts. However, her opponent the school official was not content with winning the issue, and complained to the Ohio Election Commission about her anonymous handbills. They agreed with him and fined Ms. McIntyre **$100** for failing to identify herself.

She challenged the fine in court as a violation of her First Amendment right to speak on political issues. The case went all the way up to the Supreme Court, which ultimately agreed with Ms. McIntyre (though she passed away before its decision), and invalidated the Ohio law. As U.S. citizens we have a First Amendment right to distribute our political speech anonymously. The Court referred to this as a "core" 1st Amendment value. The State of Ohio insisted that its identification law was necessary, because it helped prevent fraud, falsity and libel by dishonest political publishers. However, the Court felt this did not justify a blanket state requirement that publishers of all political handbills, whether or not they are marked by these evils, must be identified. In reaching this decision, the Court identified several valuable purposes served by anonymous political speech.

One is to promote the creation of valuable works of literature and art. Some of the most important creative contributions to our culture are also, at the time of their creation, some of the most scandalous and provocative stuff around. This ability to shake society is often part of the measure of great works. At the same time, the creators of some of these great works might not fare too well socially if identified to the public at large, especially if they're the type to shy away from the spotlight. Thus, as the Court states, "the interest in having anonymous works enter the marketplace of ideas unquestionably outweighs any public inter-

est in requiring disclosure as a condition of entry."

Another valuable purpose for anonymity is promoting and protecting political speech that would otherwise be suppressed due to fear of reprisals. The potential risk involved in just speaking your mind is almost limitless, as currently demonstrated by recent killings of popular Algerian Rai musicians by Islamic fundamentalists, and the ongoing death order against author Salman Rushdie, all simply for criticizing Islamic practices.

While such retaliations, in the end, may goad those who speak out to continue against such oppression despite the risk, the entire process points toward social instability and revolution. In contrast, here in the U.S., the Constitutional tolerance for speech enables those with criticisms about the ruling regime to air their views without the very fact of speaking pushing us to the edge of chaos (whether this renders the speech impotent or fosters its effective introduction as an agent of change into the mix of social thinking is another question).

Preventing government from looking behind the shield of anonymity furthers this goal. If the offbeat and critical elements of our society get to have their say, we can avoid needless rebellion based on the mindless tactic of just trying to shut them up.

The other value for anonymity cited by the Supreme Court is that it promotes the consideration of ideas, without bias from knowing who the ideas came from: "Anonymity thereby provides a way for a writer who may be personally unpopular to ensure that readers will not prejudge her message simply because they do not like its proponent." As the Court pointed out, many of the views in the Federalist papers, from which much of the grounding philosophy of U.S. government derive, were anonymously published.

All these are only some of the ways in which the right to speak anonymously puts the "freedom" in freedom of speech. There are other valuable functions to anonymity which the Court left out, likely because they don't come up in political leafleting. Perhaps the major one is protection of whistleblowers. Plenty of distasteful enterprises merrily avoid detection based on the generous promise to all involved that anyone who squeals gets hit. All whistleblowers, other than martyrs, the foolish and the powerful, need total anonymity in order to reveal secret transgressions to the public or the authorities. With the rise of online communications making anonymity easier to achieve, whistleblowing is becoming more popular than ever. Indeed, online services have been set up expressly to serve as a place to serve up awful secrets without fear of retribution. While whistleblowing does not directly further the discussion of political ideas, its function is clearly of the utmost value in society, and its protection through a right of anonymity is hard to question.

Anonymity on the Net also enables people to explore parts of themselves in ways they could not do otherwise. One's job may be serious and burdened with responsibility, but online you can act like a free spirit. In family and business situations you may be inhibited against saying a single nasty word, but online you can carouse, if you want, with a saltier crew. This can be a very healthy process for some people, freeing them from needless rigidity and narrowmindedness that can set in from the daily offline routine. Anonymity is the tool that can let people explore themselves this way, without worrying about the clash between different parts of their lives if someone they know in the physical world finds out about some other side they reveal online.

Many people take this further, using anonymity tools not to be totally anonymous, but to be someone else, usually of their own creation. If you go online today you will find boys pretending to be girls, girls pretending to be boys, teenagers pretending to be parents, invalids pretending to be action heroes, whites pretending to be black, blacks pretending to be white, and so on. Actually, if they're good at it, you won't find them.

Beyond the play aspect of this activity, it also has great social value. The heightened anonymity capabilities online permit people to explore the lives of others who are different from them in important ways. Many men and women who explore online dressed up as the other gender remark on how different the entire world of human relationships looks from the other perspective. Call me foolishly optimistic, but it seems inevitable that this kind of process can increase our empathy for each other, our ability to identify with others' points of view, and teach us how much more similar (though certainly not identical) we all are internally when the factor of individual perspective is partially pushed aside.

Finally, anonymity is becoming recognized as an essential feature of online commerce. Not all commerce needs to be anonymous, but neither must the buyer and seller in every transaction be traceable by the entire world. When I buy a stick of bubble gum at the local news stand, the seller may notice the transaction and my part in it momentarily, but all knowledge of the transaction will surely soon pass beyond memory. Anonymity is innate in such physical events, and we are comfortable with it.

But online, anonymity is optional. The question of its role in commerce is being newly visited, spurred by the efforts of demographics companies to pick up and tabulate every trace of our online wanderings. At this point, it appears there will be effective ways to retain traditional levels of anonymity at every level of commerce, from the stick of gum to the megabuck financing, though in many cases it may only be available for a price. Anonymity is probably a good thing in this case as in the others already described, though here it is not used in aid of free speech, but to enable efficient and productive commerce online.

Anonymity is not entirely a bed of roses. Its opponents argue that once you remove the possibility of reprisal for anonymous acts, it encourages people to act irresponsibly. The bad things that could happen include:

(1) the "doomsday scenario" — those who conceal their identities could lead traitorous and terrorist activities, and foment riots and unrest, with responsible authorities unable to respond adequately;

(2) more mundane crimes of all sorts can be furthered if the criminals can organize and execute crimes without fear of being identified;

(3) tax evasion on a grand scale — people and businesses can shift their income-related activities anonymously online, largely frustrating the tax collection efforts of land-based govern-

ments, and perhaps their continuing existence; and

(4) civil wrongs of all kinds could be committed with impunity — libel, fraud, copyright infringements, etc.

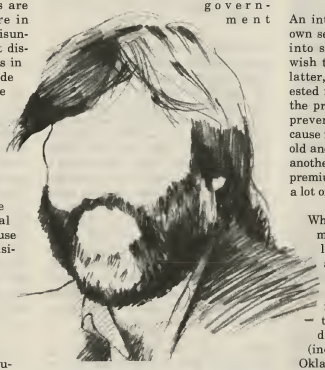
In addition to encouraging irresponsibility, far-reaching anonymity may also pose an obstacle to achieving a real online community. How cooperative and trusting can a community be if its participants all hide behind masks of anonymity keeping us from finding out who we all really are?

The benefits of anonymity and its potential for creating problems are both real enough, and they are in direct conflict. It's not a mere misunderstanding. The problems do not disappear when you recast the issues in new terms, or enlighten each side about the concerns or needs of the other. Simply put, the feature of unaccountability which makes anonymity so attractive for many important social goals is also what creates the risk of irresponsible and dangerous activities. How do we resolve this conflict? How we weigh the value of anonymity against the social costs created by those who would use the power of anonymity irresponsibly?

So far, three approaches to resolving the social issues of anonymity have been advanced. The first is a right of total, uncompromised anonymity. The thinking here is that anonymity is so valuable for society and for individuals that we all just have to live with it.

The second approach advocates a highly compromised right of anonymity. Everyone who goes online would have to register their identity somewhere. Those records would be about as hard, or easy, to review as credit reports are today. In effect, there would no true anonymity at all. This approach emanates from those who are the most afraid of what anonymous people might do, and those who stand the most to gain from a low level of anonymity, such as government and commercial interests.

The third approach is anonymity that could be pierced only when the guardians of society, such as the FBI and other police groups, decide that specific anonymous actors pose a danger to society. This is an extension of the Clipper scheme, in which Clipper users must stow copies of their encryption keys with government agencies, for the express purpose of yielding them up to law enforcement agents upon properly delivered demand. In the version applicable to anonymity, information about each anonymous actor's true identity would be recorded on some trusted server, again yielding up that information only to properly authorized government agents. The rationale for this approach is that many of the benefits of anonymity can be realized, while government



retains the ability to act against those who use anonymity irresponsibly. Of course, it also requires trusting the government never to misuse its power to figure out who's who .

These simple-minded solutions are clearly the first ones people think up, but they are all seriously defective. Total anonymity leaves irresponsible people free to wreak havoc. Highly compromised anonymity oppresses speech, self-realization, societal enlightenment and electronic commerce. Anonymity with a government back door forces us to trust the government completely, despite the serious lapses in government conduct regularly trumpeted by the media.

There might be another way: instead of cutting back on our ability to act anonymously, perhaps we can arrive at some system of spreading the social costs. This would allow the unrestrained use of anonymity for purposes that benefit society and its members, with a mechanism to cover losses caused by those who misuse the privilege. Is it possible to model such a system after state auto insurance schemes, where the state requires everyone with a car to carry insurance? Just as everyone who wants to drive a car has to pitch into a fund that pays for accidents, those who want to "drive" anonymously online would have to pay into a fund that covers injuries caused by misuse of anonymity.

An intriguing idea, but one with its own set of issues. Would everyone pay into such a fund, or just those who wish to operate anonymously? If the latter, would enough people be interested in paying for insurance to make the premiums affordable? How do we prevent recidivism among those who cause injury anonymously — cancel the old anonymous i.d., so they have to buy another one and pay another insurance premium (that doesn't seem to provide a lot of discouragement)?

What about those who would anonymously injure themselves to collect on the insurance, such as by anonymously infringing their own copyrights? And perhaps the most difficult problem for an insurance-style solution: would the fact that many of the injuries due to anonymous messages (including major disasters like the Oklahoma City bombing) are deliberate, instead of the accidental injuries and deaths covered by auto insurance, make the premiums insurmountably large?

These problems are not intractable, but they are not necessarily fully solvable, either. There may be a technological fix for some, and some adjustments in the laws applicable to online injuries may help as well. The important thing is that we need to start working through the insurance approach to solving the social riddle of anonymity, and any others that might be suggested. In the process, the true value of anonymity in society will be clarified and appreciated, and the chances for a more equitable balance between anonymous freedom and responsible anonymity will be reached. ◆

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MACINTOSH NEWS

by Bill Gram-Reefer

THE WEBS WE WEAVE

Make no mistake, Macintosh servers are making plenty of noise in the HTML/HTTP world of Web sites. In fact, according to one developer mentioned in this column, , Macintosh-based servers win hands down over UNIX, Windows or PCs on issues like security, price/performance and ease of use. Here's a report on recent news concerning Macintosh Web products.

Bill Gram-Reefer, based in Concord, CA, is president of WORLDVIEW, specializing in connectivity and communications. Bill has been writing about Macintosh computers since 1984. His column on Commercial Online Services appears monthly in *MicroTimes: California's Computer Magazine*. E-mail Bill at reefer@netcom.com

At deadline, here's what we know about the StarNine/BIAP deal. StarNine will market WebSTAR and WebSTAR Pro, the first industrial-strength World Wide Web servers for Macintosh based on Chuck Shotton's MacHTTP, the most widely-used desktop Web server on the Internet. StarNine will also market a complete line of Internet server products including WebSTAR, MailSTAR — a Listserver/Mailbot manager due out in the second quarter (previously announced as EMail-On-Demand) — and a bundle that will include both WebSTAR and MailSTAR as well as FTP and Gopher server software for the Macintosh.

The release of WebSTAR will effectively be version 3.0 of MacHTTP. Informed sources said new features will include easier configuration using a window with check boxes instead of the editor, and true multitasking multi-threading that will enable WebSTAR to handle hundreds of thousands of WWW transactions a day while improving the responsiveness of other server-related processes. An enhanced Administrative interface allows secure local or remote administration and monitoring of multiple WebSTAR servers from a single location. WebSTAR will support Folder aliases allowing servers to serve content from anywhere on an AppleTalk LAN; user-defined actions allowing pre- and post-processing of URL requests; and customizable log file formatting. The new server also includes better support for AppleScript and AppleEvents, and an improved interface for Common Gateway Applications (CGIs). WebSTAR will include complete documentation, HTML tutorials, AppleScript and examples, and Acrobat Reader software from Adobe.

WebSTAR Pro will include all the new features of WebSTAR as well as built-in electronic commerce support via the First Virtual Internet Payment System and secure client/server connections via NetScape Communications Corporation's Secure Sockets Layer protocol (SSL). A later release of WebSTAR Pro should support the new TCP/IP stack in Apple's forthcoming Open Transport, allowing many more simultaneous connections to the server.

Pricing hasn't been determined but will be by the time you read this. I expect very aggressive upgrade pricing for existing MacHTTP users who upgrade to WebSTAR. StarNine is also toying with the concept of continuing to provide a low-cost shareware version of WebSTAR, perhaps based on version 2.0 of MacHTTP. But some people suspect that Chuck will want all users to enjoy the true multitasking, so there may be some wiggle room. There had been some question as to whether this was an exclusive deal; it is. StarNine is the exclusive licensee. From all accounts, users seem happy with the deal; the only question being why didn't Apple do it earlier?

Chuck Shotton's MacHTTP is acclaimed by hundreds of Mac-Website administrators as a clean, powerful, and easy-to-use WWW server for Macintosh. No wonder StarNine wants to glom on to the action there. But leave it to John O'Fallon, president of Maxum Software, to add a couple of new utilities for MacHTTP that make the job of Webbing on a Mac even more feature-filled and easier to use both for the clients and the server admins. Take, for instance, O'Fallon's new versions of NetCloak and NetForms, released in April.

NetCloak is a MacHTTP add-on that gives admins 30 new commands which can be used in HTML documents. These commands execute at the time your documents are sent to client callers. The upshot is that NetCloak gives Websites more information about each caller and additional security options. Additionally, NetCloak gives each caller more information about your site. You can include date, time, caller number, what page the caller just came from, what browser is being used, the IP address of the caller, the number of times a particular page has been accessed, and other information embedded in the text of your HTML pages.

"Referer-based document control" (I like that name) allows admins using MacHTTP to dynamically control pages based on the last document the user viewed. Also new in Version 1.0b9 are an Activity Log which logs each page processed and enhanced security featuring full MacHTTP "Realm" support. Any document served through NetCloak can be password-protected using your existing MacHTTP configuration; no other maintenance is required. Additionally, admins can permit full file access to any volume mounted on the Mac's desktop, or limit access to just the MacHTTP root folder. Other cool things you can do with NetCloak include the ability to use in-line JPEG images or formatted tables, and

change your pages randomly, or by the time of day or week.

O'Fallon's update to NetForms (Version 1.0fc2) includes some bug fixes and adds a few cool enhancements. NetForms is another add-on application that runs in tandem with your MacHTTP server. It allows forms entered by users to be automatically converted into HTML documents, which can then be read by other Web clients. These documents can contain a variety of elements normally found on Web pages: text, bullet lists, graphics, and hypertext links. These client-uploadable documents, up to 24K, then can also be indexed and searched and placed within menu hierarchies for easy access. Essentially, NetForms makes your Web site highly interactive, giving users easy access to feedback, letting them add information and really contribute to your Internet server, if you're into that kind of thing. Don't worry, server administrators have full control over formatting, the ability to add navigational links, assign field lengths, graphics, and where such documents get placed. NetForms can actually let users chat in real time or, for more effective use of hard disk space, create a bulletin board where callers can leave messages that subsequent callers can respond to.

NetCloak and NetForms are NOT freeware or shareware, but downloadable commercial packages. Maxum provides potential customers with the ability to download the full versions with a 30-day period in which to evaluate the product. After that time, a license is required. NetCloak and NetForms are compatible with all standard Web browsers like NetScape or Mosaic 2.0 that have the ability create and read articles. To reach Maxum Software point your browser at `http://www.maxum.com/maxum/`. There you'll find the downloadable software, a FAQ for both, and a pointer to Higgs America, an Internet consulting firm that maintains mailing lists for both products.

Marshburn and company, Delphic Software, are up to their standard trick of providing feature-packed software with the announcement of Internet

Server (ALI) for Macintosh. ALI provides, in one package, a DNS server, SMTP server, FTP server, NNTP server, POP3 mailbox server, Gopher server, LISTSERV manager—let's see did we leave anything out? Oh, yeah: WWW and Finger daemons, and, according to Delphic, the proverbial "much much more." All of these modules will turn your Macintosh and TCP/IP connection into a full-suite provider for your customers. No UNIX boxes, consultants, or clumps of hair on the floor from frustration, either.

Using any Web browser on any platform, users will be able to access their POP3 mailbox to read or send e-mail, LISTSERV and USENET discussion areas, file areas, etc. Delphic says ALI is in beta testing now and will be ready for release in the second or third quarter of this year, so don't get in a lather until it actually ships. The server will be sold in a variety of feature-set packages ranging from **$995** to **$1,995**. Pricing for the WWW groupware licenses will be on a per-user basis and will be sold separately. Delphic promises ease of use, no HTML editing, and full cross-platform support, meaning Mac OS, Windows, Solaris, SGI, and virtually every other operating system, through a consistent and logical and easy-to-use graphical interface. Contact: Andy Marshburn, `e-mail:\\andy@delphic.com` **Internet.**

Finally, although not a Web product, I think this next item deserves mention. Pine Island Software is shipping BBS Surfer, a Mac-based CD-ROM database of BBS settings files for 200 of the best FirstClass Systems. Users can search the CD for systems by area code, zip code, city, or other categories. Then all you do is double click to log on to the selected BBS. Desktop screens of the BBSs are provided as sort of a preview. The package also contains ratings of the quality of each board's content and its published access rates. So, lose the telco charges for all the settings files you might download in a year and get this offline directory instead. Better hurry, though, 'cause the special introductory price of **$39.95** is in effect only until July 31, 1995. Come August pricing will go to **$80**. Contact: Mark Bennett, Pine Island Software; 6144 Hillside Avenue, Suite 7 Indianapolis, IN 46220; **(317) 465-9623** voice; **(317) 255-4313** fax; **(317) 466-7970** modem. ◆

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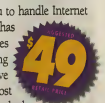

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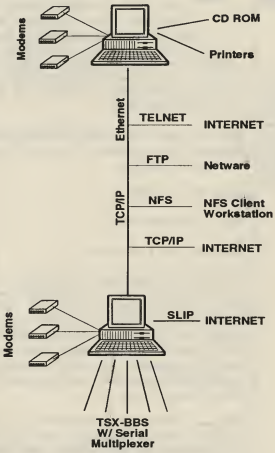

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BEGINNER'S LUCK by Doug Shaker

MOTHRA GETS THE NEWS

Yes! YES! Mothra is on the Internet now! Last month I was trying to connect my BBS (formally known as The Smalltalk Cafe, informally known as Mothra) to the Internet. As the deadline for the column approached, I had gotten a working SLIP connection through TLGnet (a.k.a. The Little Garden), a San Francisco Bay area Internet service provider. At that point, if you knew my IP number you could ping the BBS.

Doug Shaker owns and operates The Smalltalk Store. He can be reached via e-mail at **doug @smalltalk.com**. He has one wife, two children, three cats, four computers and five telephones.

Well, there is a certain thrill in having your system ping-able. You can modem in to another Internet service provider, and type

```
ping 204.188.154.1
```

and it comes back with

```
204.188.154.1 is alive
```

While this is happening, you can look at the "RD" and "SD" lights on your SLIP (Serial Line Internet Protocol) modem and, sure enough, they flicker between the ping and the response. Yes, there is a certain thrill in attaining such a level of connectivity, but it pales very, very quickly. After 15 minutes, max., it is getting old. And until your Domain Name Service (DNS) registration kicks in, ping-ability sure doesn't buy you much.

You see, DNS is the stuff that lets your computer translate between the people-names for computers, e.g. **boardwatch.com** and **bbs.smalltalk.com**, and the computer-names for computers, e.g. 204.144.169.1 and 204.188.154.1. People are the ones using the computers, so they want to say things like

```
telnet bbs.smalltalk.com
```

and have their computer do something useful. But until your DNS registration kicks in, all that will happen is something like:

```
bbs.smalltalk.com: unknown host
```

DNS is the system that lets your computer ask questions over the net until it finds out what IP number is associated with the name you have specified.

DNS is wonderful and straightforward technology. Read Ablitz & Liu's very good book DNS and BIND,published by O'Reilly & Associates if you want to know how it works. The only problem is that the net has exploded in the last 18 months and the staff doing DNS registration has not. What used to take 3 or 4 days now takes about 2 or 3 weeks. In my case, I seemed to spend most of those weeks drumming my fingers on the desk, looking at the clock, the calendar, the clock, the calendar, the modem, the clock, the calendar, and then calling my shell account and trying

```
ping bbs.smalltalk.com
```

one more time. And getting

```
bbs.smalltalk.com: unknown host
```

Arrgh! Then I would start all over again, looking at the clock, the calendar, the clock, the calendar.... Perhaps not the most productive way to spend my time.

This is all by way of saying that when you apply for your DNS registration, do not expect it to happen quickly. Expect it to happen at a pace that is best measured in geological time units. It will happen, but you will have to wait for it.

About one or two weeks after I submitted my last column, my DNS registration became effective. It was, to say the least, a relief when I was able to

```
ping bbs.smalltalk.com
```

and get

```
bbs.smalltalk.com is alive
```

Yes! I felt like the mad scientist in a horror movie, crying "It's alive! It's alive!" It feels like an endorsement of your efforts, a pat on the back from the cyber-universe, when your DNS name assignment starts working. Of course, it also means that humans can call you up without having to memorize a 10-digit IP number. Then I went around posting messages to various newsgroups and Compuserve forums saying, in effect, "Taa-daa! Now available for telnet access - The Smalltalk BBS!" Of course, I had hoped this would result in a flood of telnet calls. And for about 48 hours, that is what did happen. Then it drifted back to a more level rate. Prior to being telnet-able, I was getting one to three calls per day. After becoming telnet-able, the sustained average inched up to two to four calls a day. As far as I can see, without any changes in content, telnet access is worth about a 50% increase in call volume.

But I still don't have enough call volume to make this enterprise worth doing. I have a few more techno-tricks up my sleeve, though. The next thing I was going to do was to get Netnews on my machine and have it subscribe to all of the newsgroups that are even faintly related to Smalltalk. The newsgroups have lots of content in them.

Setting up the news feed turned out to be surprisingly easy to do. First I called up TLGnet and found out the name and IP number of the NNTP server for TLGnet. For the acronym-impaired, NNTP means Network News Transport Protocol. It is ordinarily used by workstations inside a company to request particular news articles from another machine within the company, a machine which archives large numbers of Netnews articles, i.e. a news server.

Well, my BBS software, TSX-BBS, requests Netnews from NNTP servers, but caches the articles on the BBS machine, letting me use NNTP to give news service to my users. Setting it up on the BBS was a two-step process. First, I had to specify the nature and frequency of my netnews connection to the BBS software. That is, I had to give the BBS the name of the NNTP server and the schedules for downloading articles from the server and for uploading articles that are posted on my machine.

Second, I had to ask the BBS machine to get a list of newsgroups from the NNTP server so that I could edit them down to something reasonable. Editing the newsgroup list is absolutely necessary. Netnews is currently churning out about 100,000 articles a day, with something like 130 MB of data a day. You can't fit that much stuff through a 28.8k modem in 24 hours. Heaven knows how much longer we'll even be able to pump it through a T1 connection.

Unfortunately, the first few times I tried to retrieve this newsgroup list I failed. With the TLGnet news server (and, I suppose, any news server on the net), one must be registered to be able to get a useful response to any NNTP request. I was not registered the first few times I tried. I sent e-mail to my TCP/IP coach at TLG, but he didn't know anything about the NNTP service. So, I sent e-mail to the general support address at TLG and got back a nice "Oops, I was supposed to do that earlier. Try it now." note from the news person there.

My next query to the NNTP server was successful and I got a huge list of newsgroups. Lordy, there are a lot of groups there. I know some newsgroups are pure junk - that is, the name of the newsgroup itself is a joke and postings to it are superfluous. I assume that most of the newsgroups, stupid name or not, are filled with content that is junk. I loaded the list into my favorite text editor (MicroEmacs, if you care) and began deleting groups. I filtered the thousands of newsgroups down to 100 or so and started up the news software.

Ba-boom! Four hours later, my BBS was filled with scintillating technical discussions which should be of great interest to my target audience. However, "should" is the operative word here. I have had the USENET groups up on my machine for almost three weeks now and hardly any user takes a look at them.

I am not sure quite what lesson should be taken from this. The lesson may be a straightforward economic lesson. If information, in this case, Netnews, is available at low cost from local providers, people will not make long-distance calls to get it for free.

I am beginning to suspect that there is another lesson here, as well. I have been, for the most part, trying to find a technical configuration that will gather information automatically. I hoped to attract users without much involvement from me. I am beginning to suspect that this will not work. I am beginning to suspect this is rather like asking people to become friends with an artificial intelligence program. I believe I will need to spend more time on-line - in chat, e-mail, and forums, if I want Mothra to have many friends.

TIME TO DO SOME CLEAN-UP

I want to spend a little time, in this column, dealing with some questions and issues from past columns.

Some of you folks have indicated that you are uncertain of the origin and pronunciation of the name "Mothra." OK, here is the story. During the 1950s and early 1960s, the Japanese film industry produced a large number of cheap black-and-white monster movies. Usually the premise was that radiation has caused some mutation in the natural world and created a huge version of a normally small creature. One of these concerned a large moth called "Mothra." It is pronounced "moth-ra," rather than "mother-a." I don't know why I call the BBS "Mothra", but I suppose it has something to do with it being kind of a lightweight monster, at least in terms of its demands on my time.

My BBS's formal name is "The Smalltalk Cafe." It is oriented toward the needs of Smalltalk developers. Just in case you are not a dyed-in-the-wool nerd, I will explain that Smalltalk is an object-oriented programming language developed at Xerox's Palo Alto Research Center (PARC) about 20 years ago. For more information on Smalltalk, see the FAQ list for the newsgroup **comp.lang.smalltalk**. It is available for FTP from **rtfm.ai.mit.edu** and for download from my BBS. See below for details on the BBS.

In one of my first columns, I gave an FTP location for the BBS frequently asked questions (FAQ) list. It has changed since then. It is now available by FTP from **ftp.njcc.com**. It is also available on the web at **http://pluto.njcc.com/~clairew**. The author is Claire Walters. Her e-mail address has also changed. It is **Clairew@pluto.njcc.com**.

Finally, in one of my columns a few months ago, I professed a belief that a solid, reasonably inexpensive implementation of a BBS system on Linux would be a Good Thing that would allow lots of BBS systems to enter the Internet age. I am happy to say that Galacticomm now has a Linux version of The Major BBS. For March and April of 1995, the price for a 4-line Linux version of their BBS was **$995**. This is a really good price. Users can telnet into the BBS, you can import netnews into forums, it has good internet e-mail support, and you can run a web page on the same machine that the BBS is running on. If you have a DOS version of The Major BBS, they have a conversion utility that will move everything over to the UNIX version. It is a nice system. I like it. I don't know if they will hold this price - I am writing this in April - but if they do, it should be a winner.

Resources:

The best book on DNS that I know of is DNS and BIND by Paul Albitz and Cricket Liu, O'Reilly and Associates, Inc., 1992. ISBN 1-56592-010-4. E-mail: **order@ora.com**. They also have a web page: **http://gopher.ora.com:70/**.

Galacticomm, Inc.: voice: **(800)328-1128** or **(305)583-5990**, BBS: **(305)583-1759** or telnet to gcomm.com, web page: **http://www.gcomm.com/**. To look at the UNIX version of the BBS, either dial in to the regular BBS and enter "go unix" or telnet to **unix.gcomm.com**.

The Little Garden, voice: **(415)487-1902**, information via e-mail autoreply: **info@tlg.org**.

S and H Computer Systems makes TSX-BBS. Voice: **(615)327-3670**, BBS: **(615)320-1820**, telnet: **sandh.com**, FTP: **ftp.sandh.com**. Shareware versions are downloadable from the BBS and available via FTP.

The Smalltalk Cafe (a.k.a. Mothra) can be reached by modem at **(415)854-5581** or telnet to **bbs.smalltalk.com**. If you just want to look around, log in with first name = "boardwatch", last name = "guest" and password = "none". If you have a real interest in Smalltalk, go ahead and log in as yourself.

Linux is a freeware version of Unix which runs on 386 (or better) PCs. Usually, a very full CDROM of Linux and Linux utilities can be had for very little. Walnut Creek CDROM sells a 2-CDROM Linux set for **$39.95**. It really is a pretty good operating system, if you stay away from the beta versions. Walnut Creek CDROM: **(800)786-9907** or **(510)674-0783**. E-mail: **info@cdrom.com**. ◆

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PEOPLE ONLINE by Phyllis Phlegar

GETTING OUT FROM BEHIND THE KEYBOARD

We're all online for different reasons, but basically we all connect with a human being or beings on the other end. To me, one of the most natural things to do is to actually meet, face to face, those cyber friends and associates. I am always looking for an excuse to meet a cyber friend in person. This past March I had the perfect opportunity thanks to a series of coincidences. Because I am pregnant, my husband and I decided that our old house needed some baby-safe upgrading that involved a full remodeling of the bathroom and the refinishing of the floor in what would be the nursery. Plus, there was a casino memorabilia (casino chip) show scheduled in southern California for the last weekend in March, and my favorite casino-chipping buddies Jim, Steve and Dick would be there. And in that same part of California was my sister Fran, my cousin Joan, cyber pal Peg who collects teddy bears, and Hunca, who collects Barbie dolls. Looking at the map and planning my route, I realized that yet another Barbie doll collector, Patsy, lived along the way.

Phyllis Phlegar is a graduate of the University of North Carolina at Chapel Hill, and also holds a private pilot's license. She is a free-lance announcer and her work can be heard on Business Radio Network, National Public Radio and the Armed Forces Radio Network. Phyllis' book *Love Online* is now available from Addison Wesley Publishing Company.

Write to Phyllis, at XHBG67A on Prodigy, P.Phlegar on GEnie, Phlegar on Delphi, P Phlegar on AOL, 71562,407 on CompuServe or at phyllis@cris.com on the Internet.

After a week or so of e-mailing everyone, I was in my car and headed for Patsy's house. I'd met her about a year ago on GEnie, when the small group of Barbie collectors known as "The Poodley Seven" reconvened on GEnie after NVN suddenly pulled the plug. An engaging bunch, the original seven attracted more members, soon called "The Poodlies Plus." Patsy was one of the "plus."

The Poodley Seven Plus exchanged hundreds of public notes a week and had several live chats, but late last year Pasty seemed to have disappeared. One of the gang finally found out that Patsy was in the hospital. She'd had emergency surgery and had come very close to death. The Poodlies sent her cards and dolls and called her husband, who went online so we could have regular reports on her condition.

Finally, Patsy was back online, and everyone was quite relieved. She didn't seem a lot worse for wear, just very, very weak and tired, and naturally slower in responding to the crush of messages and mail she'd received. Patsy was still the cheery, carefree, one-of-the gang kind of person we'd come to know. I thought she was a bit of an air-head, frankly, but completely harmless and probably a lot of fun. Even though I'd never even spoken to her on the phone, I took a chance and asked her in e-mail if I could stay with her and her husband (who is known affectionately as "Man Servant," a moniker he gave himself). She said sure, if I didn't mind her pets: several reptiles, snakes and...large spiders.

Okay. I can do this! This will be exciting...besides, how strange can these folks really be? Patsy's an assistant sysop on GEnie, she and her husband appear to have a good relationship, she's still recovering from major surgery...and if things seemed too weird, I had my own car, my AAA guidebook and the freedom to politely leave. But the oddest thing of all was that they agreed to have me as a guest, sight unseen. Were they nuts or something?!

Patsy and Phyllis

It was after a long drive that I finally made it to Pasty's place. It was already dark, and I was completely wiped out. Thank goodness my instincts about Patsy were right on the money...she is "good people." Patsy, her husband and I stayed up quite late talking about everything and having an all-around good time.

I was quite surprised to find that Patsy was not a ditsy air-head, as my online experiences with her had led me to suspect. She is actually a rather serious, educated and well-spoken, thoughtful indi-

vidual. Her earlier hospital ordeal was not evident as she appeared to be in good health...slender, yet somehow powerful, with a lovely face. Her "pets" were exotic and beautiful, and well-cared for in their own roomy yet secure tanks.

I was tired but happy as I left the next morning, headed to Peg's place in Yorba Linda, California. I've known Peg for over two years, and it was great to see her again. She was just as I'd remembered; full of life with that proverbial heart of gold. Online, she seems almost like a shy little girl, who takes great joy in talking about her teddy bear collection. In person, she's a gently gregarious woman, with two lovely grown daughters. Her marriage of some 30 years seems as fresh as when she and her husband first met in high school.

Phyllis, Peg and Hunca

Peg's place became my home base for several other side trips to have in-person visits with cyber pals who live in the area. One such side trip was a special get-together along the California coast, at the home of Jim, one of my casino chip collecting friends whom I'd met online a few years ago. Chip-collectors Dick and Steve were there too. I met all of them in person last year at a huge chip collectors convention and this was the first time we'd all been together in person since then.

We had a wonderful time both that evening and later that week at a casino chip show in Bellflower, California. It was there that I made the face-to-face contact with Merrill, a casino chip collector who had recently joined our cyber chip club on Prodigy. His impressions of cyberspace? He enjoys meeting his new computer friends in person and said "I'm addicted! My time online keeps increasing. I've traded casino chips with over 50 people in less than 3 months!"

Another first time face to face, was when I met Hunca, one of the original Poodley Seven. She lives about 30 miles north-east of Peg. I'd met Hunca online about two years ago. She was a prolific public poster, who kept up with everyone and everything...emotional, opinionated, involved and very caring. One never knew when a care package full of surprises would arrive in the mail.

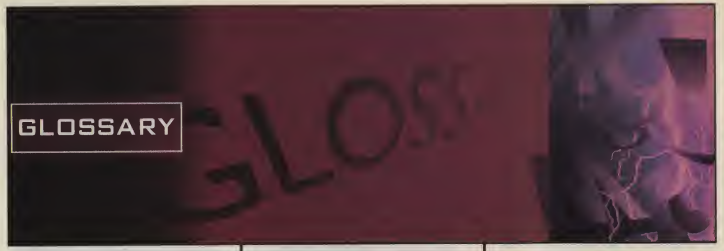
Hunca and her husband came to Peg's house and spirited me away for an adventure filled with dolls, great food, and fun at Disneyland! Hunca was not much different in person than she was online, and she was easy to be with. Seems that I was a bit of a surprise, as she said "You were more down-to-earth than I thought you might be...you were intelligent, and witty, and utterly charming."

It was quite late when we finally ambled back to Peg's place. Hunca and Peg had been only casual acquaintances online, but after having met in person they became friends who now chat easily and often online. Hunca's impression of Peg online was that she'd be a "yuppie," but that notion turned out to be quite far from reality. Hunca now calls Peg the "Mother Earth of All Bears" and says, "She is a gloriously comfortable person, and by that I mean that we instantly felt at home with her...she is warm and wonderful...I'm really happy you stayed with her, so we could meet you all!" Peg and I, of course, were quite taken with Hunca and are planning to get together in person again.

I also managed to drive to my sister's place in North Hollywood, and my cousin's in San Diego. From there I headed home, but I stopped at Patsy's on the way back too. This time I got there in the afternoon, and we had a lot more time together. Patsy prepared a homemade pasta and chicken dish to die for. And we talked about (among many other things) our impressions of each other in person, versus our online personas.

To my surprise, Patsy said "On the board, you seem so businesslike..and the glow/aura/happiness about you does not become apparent until you are met in person. I was almost afraid to meet you, because I was afraid you'd be very intimidating, but you aren't at all." She went on to say that she wasn't worried about having me stay with her sight unseen, since I seemed to be so open and honest online and she felt as if she'd known me for a long time. The next morning, it was hard to leave. I wanted to stay another day, but I'd been away from home for two weeks already, I was worn slam out and my husband was anxious for me to be back home.

I returned from this trip more aware than ever that these friendships that began online were assuming new dimensions because we had met in person. I'd say that my online clubs were enriched and thriving because of these face-to-face get-togethers that our members often make. No matter how social or how many people are involved in a BBS or a common interest board, nor how many posts are made, these online cyber-clubs and social groups can only live up to their full potential when members decide to get out from behind the keyboard. I miss my friends when we are not physically together, but it is very comforting now to be with them online...and I look forward to seeing their wonderful faces again soon. ◆



bps - Bits Per Second - a measurement of data transmission speed.

CGI - Common Gateway Interface, an Application Program Interface (API) peculiar to the UNIX operating system which allows a **Web server** to pass data from an HTML document to a CGI script, which runs various programs as necessary and returns resulting data for display over the **Web**

COM port - Serial ports on the IBM PC compatible computer, usually, but not always used for data communications, are referred to by system designators COM1, COM2, COM3...etc.

Conference - A group of public messages on a Bulletin Board System, usually focussed on a particular topic and often moderated by a conference host or moderator who guides the discussion. Also called Folder, SIG (for "Special Interest Group") or Echo. See also **Newsgroups**.

cps - Characters Per Second - characters usually referring to a single 8-bit byte of data. With start and stop bits, a total transmission of 10 data bits is usually required to transmit a single character or data byte.

CSU/DSU - Customer Service Unit/Digital Service Unit. A hardware device that provides a digital interface to high-speed leased lines (see **T1**). Looks and acts like a modem, and all too many people call it a "digital modem." However, a CSU/DSU does not MODulate or DEModulate analog (voice) signals; it deals with digital signals from end to end.

DNS - Domain Name Service, a two-column look-up table system of matching mnemonic machine names such as **boardwatch.com** to their numeric IP addresses (**204.144.169.1**). The tables are maintained at local, regional, and global levels by various organizations, making it easier for humans to find their way around the Internet or their LAN.

Echomail - collections of public messages shared by multiple BBSs. A message entered on one BBS in an echomail conference will be "echoed" in corresponding conferences on any number of BBSs which choose to receive the same conference. Replies from users on all member systems are likewise echoed to all participating systems.

FAQ - Frequently Asked Questions - a file established for many public discussion groups containing questions and answers new callers often ask.

Finger - an application program which will search a particular machine connected to the Internet for a specified entity and return any information about the fingered entity that may be stored on the machine's finger **server**. You need to supply a search string, e. g., **finger hakala@boardwatch.com**, which includes the full **DNS** name of the specific machine. Therefore finger does not help you learn where a given entity connects to the Internet, but you can learn which people use a given site. See also **ping** and **whois**.

FTP - File Transfer Protocol - an application program that uses TCP/IP internetworks as a medium for transferring files. You can logon to an ftp site using an ftp program and transfer files from their site to your local desktop using a GET command. Many sites allow ANONYMOUS ftp. At the login prompt, enter ANONYMOUS as the login name, and at the password prompt enter your e-mail address as password. You will have access to a limited number of public directories from which you can retrieve files.

Example: **ftp boardwatch.com**

Home page or **Homepage** - the top-level hypertext document in a collection of linked **HTML** documents. Often, the document imlied in a **WWW** site's **URL**, e. g. **http://www.boardwatch.com/homepage.html** is generally rendered as **http://www.boardwatch.com**.

HTML - Hyper Text Markup Language, the programming language used to create **WWW** pages and define the functions to be performed when one clicks on a button, image, or hypertext link embedded in the page.

HTTP - Hyper Text Transport Protocol. The method by which the World Wide Web provides hypertext links between web pages - often located on entirely different machines.

IP. Internet Protocol. The underlying packet protocol used to connect networks over the Internet.

ISDN - Integrated Services Digital Network, an all-digital telephone system specification. Basic Rate Interface (BRI) consists of two 64 Kbps bearers or "B" data channels and one 16 Kbps supervisory "D" channel, leading to the designation "2B+D." BRI ISDN can deliver data to the home at speeds up to 128 Kbps by combining the two B channels and is the only digital telephone solution capable of using *existing* copper wire to the home.

ITU - International Telecommunications Union - a standards body operating under the aegeis of the United Nations to standardize telecommunications protocols for interoperability. Replaced the earlier **CCITT** group.

JPEG - Joint Photographic Experts Group - a standard for compressing digital photographic images.

KB - Kilobyte - 1024 bytes - often generically applied to 1000 bytes as well.

Kbps - Kilo Bits Per Second - a measure of data transmission speed indicating 1024 bits transmitting in one second.

LDS - Long Distance Service - a long distance telephone company such as MCI or Sprint.

LEC - Local Exchange Carrier - local telephone company.

Mbps - Mega Bits Per Second - a measurement of data transmission speed indicating 1024 kilobits per second or 1048576 bits per second.

MB - Megabyte - technically 1024 kilobytes or 1,048,576 bytes - but often applied to the more rounded term of one million bytes as well.

MOSAIC - A World Wide Web interface program available for Windows, Macintosh, and UNIX X-Windows that provides a graphic

multimedia interface for WWW home pages.

MPEG - Motion Picture Experts Group - a standard for compressing digital video images.

Multiport serial board - a plug-in card that extends the number of **COM** ports an IBM-compatible computer can simultaneously support beyond the factory-standard two. Enables running more than two serial devices at the same time, as in a multi-line BBS. Typical configurations offer, 4, 8, 16 or 32 ports on a single card.

Newsgroups - collections of e-mail messages arranged in a hierarchical topic structure and distributed to computers all over the Internet. Users of sites that receive newsgroups can elect to receive particular newsgroups, add messages to the shared message base, and thus join several global special interest groups. There are currently over 12,000 USENET newsgroups available.

NNTP - Net News Transfer Protocol - a protocol used to transfer USENET News Groups from one Internet site to another via Internet Protocol.

Null modem cable - a cable whose connectors are wired so as to permit serial port transfers of data between computers as if they were communicating via modems. Data transfer speeds may reach 115 **Kbps** over null modem cables between IBM-compatible PCs.

Ping - an application program that will tell you if a particular entity is presently connected to the Internet. Useful in diagnosing connection problems or checking up on employees who should be working instead of playing Doom. See also **finger** and **whois**.

POP - Point of Presence - in the telephone world this is the geographic location of a particular switch or service.

POP3 - Post Office Protocol - an alternative mail protocol used to service intermittent dialup connections to the Internet whereby mail is held until the caller makes the connection and requests mail. Most SLIP or PPP dialup account users will receive mail from a POP3 account using a program such as PC Eudora.

PPP - Point to Point Protocol - a type of Internet Protocol used via serial connections by modem. A dialup connection providing IP connectivity. Developed later than Serial Line Internet Protocol (SLIP) to accomplish the same intermittent dialup connection function.

Protocol - A system of rules and procedures governing communications between two devices. File transfer protocols in your communications program refer to a set of rules governing how error checking will be performed on blocks of data.

QWK - File extension for bags created by Quick Mail - a standard for offline mail readers.

RBOC - Regional Bell Operating Company - a provider of local telephone service such as U.S. West or Bell Atlantic.

Router - A device that connects two or more networks, such as your LAN in Boise and mine in Chicago, at the network layer. "Also," according to Bernard Aboda's *The Online User's Encyclopedia*, "an expensive device manufactured by hi tech firms with inflated stock prices."

Server - a computer dedicated to providing specific services to **client** computers. Print servers, for example, do nothing but accept, store, and print out jobs sent to them by other computers. An **FTP** server is dedicated to file-suckers everywhere.

Shareware - computer software which users are encouraged to copy and distribute to others, and to evaluate for a specified or indefinite period of time. The author gives the user a license to "try before you buy," and requires voluntary payment of a specific sum of money if the user continues to use the software. Failure to pay the requested fee *is* a legal violation of the author's copyright rights.

SLIP - Serial Line Internet Protocol - an implementation of IP over serial ports/modems - usually on an intermittent dialup basis. Developed by Rick Adams of UUNET Technologies, SLIP is a predecessor of the Point to Point Protocol (PPP) also used for dialup IP connections.

SMTP - Simple Mail Transfer Protocol - the most common method for relaying electronic mail over the Internet.

T1 - A classification of leased telephone line service offering 23 voice channels and 1 supervisory channel or 1.544 Mbps digital data service.

TCP/IP - Transmission Control Protocol/Internet Protocol. The basic packet protocol used to connect machines globally on the Internet is referred to as the Internet Protocol or IP. The Transmission Control Protocol (TCP) interacts with IP to provide an application protocol interface. The term has come to generically refer to a family of protocols used to connect local area networks to one another, forming an internet, and more specifically the global internetwork referred to as The Internet.

TELNET - An application program that allows users to interactively logon to menued services provided at TCP/IP Internet sites.

Example: **`telnet boardwatch.com`**.

UUCP - Unix to Unix Copy Program - a series of programs and algorithms used to transfer files, and electronic mail by dialup modem. Many bulletin boards provide e-mail/newsgroup access by using UUCP to connect to an Internet provider, and are not actually connected to the Internet by IP.

URL - Uniform Resource Locator - a system of references to different Internet sites indicating both the site and type of protocol or application program used to reach it: e-mail, ftp, http, gopher, etc.

Example: **`http://www.boardwatch.com`** indicates a Hyper Text Transport Protocol address on the World Wide Web (**WWW**)with location **`www.boardwatch.com`**.

USENET - Users Network, one of the earliest networks of computers which exchange e-mail conferences via the Internet using **UUCP** and **NNTP**. Properly capitalized in full but often rendered as "Usenet." Estimated to include over 70,000 nodes, 12,000 newsgroup conferences, and 2 million readers.

V.17 - International standard for facsimile transmissions at speeds up to 14,400 bits per second.

V.32bis - International standard for modem data communications at speeds of up to 14,400 bits per second.

V.34 - International standard for modem data communications at speeds of up to 28,800 bits per second.

V.FC - V.Fast Class - a pre V.34 proprietary modem modulation standard for 28.8 kpbs connections developed by Rockwell International and Hayes Microcomputer Products.

Web - See **WWW**.

Whois - an application program which queries any of several whois **servers** to locate information about a given Internet user. The command **whois hakala**, for example, may retrieve the full name, geographical and e-mail address, voice phone number, and other information about any Hakala's who have Internet accounts. See also **ping** and **finger**.

WINSOCK - A Dynamic Link Library (DLL) program for Microsoft Windows that provides a simple program interface to TCP/IP services. Originally developed by NetManage, Inc., it has become the model for most Windows based Internet application programs. The most widely used WINSOCK.DLL would be the shareware program TRUMPET Winsock. Internet application programs then use WINSOCK for TCP/IP services.

WWW - World Wide Web - a network of graphical hypertext servers linked by The Internet offering graphics, sound, text, and in some cases video clips providing information.

ZIP - File extension for files catalogued and compressed using Phil Katz' PKZIP compression utilities. ◆

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DELPHI by Walt Howe

BETA TESTING FOR NEW INTERFACE TO START SOON

DELPHI's Member Services recently posted a call for volunteers for widespread beta testing of the new open standards interface. Here is part of that message:

"Delphi is currently in the Alpha Testing phase of our new graphical interface, which includes Netscape World Wide Web Browser software. We expect to begin Beta Testing soon. The new interface should be in general release sometime in the summer, barring any unforeseen changes in our time-table.

"If you would like to be considered for a possible Beta-Test position, please send e-mail to SERVICE or ASKDELPHI with your username (if sending mail from a non-Delphi account) as well as your hardware and software specifications. We will be reviewing Beta-Test applications and contacting those eligible to participate."

Beta testing will probably already be under way by the time this appears in print. While DELPHI has lagged behind Prodigy and Compuserve in bringing up a graphical World Wide Web interface, the new interface will be the most open form of Internet access yet for the major networks. There have been hints that faster access is in the works, too, but no details have been released.

While the new interface will be based on the Netscape web browser, that is only part of the story. The interface requires more than a web browser. Netscape does not include its own ftp, telnet, news, and IRC software, and it has only a rudimentary mail interface. DELPHI's package will necessarily include the additional clients, too, to make it easy for the novice to get going. Since it will be based on open standards, knowledgable users will be able to configure their package with the clients of their own choice if they prefer different software.

The initial package will be for Windows only, with a Macintosh package to follow. But anyone with the know-how to put a package together for themselves from existing public domain software and shareware clients that abound on the nets. will be able to operate on DELPHI's interface. There will be no need to run proprietary software that works only on DELPHI.

ASSEMBLING A NETSCAPE PACKAGE

For those who want to get a head start on a Netscape package, the software is available in Windows, Mac, and UNIX versions for both the official release and the latest beta version from **ftp.netscape.com** As this is written, you have the choice of version 1.0N and version 1.1b3, a beta test version in 16 or 32-bit forms. Probably neither of these will be the version that is released. Since the home site is usually crowded and hard to get into, here are three other sites that carry Netscape software:

ftp://papa.indstate.edu/.http/main!winsock-l!WWW-Browsers!NetScape.html

ftp://magellan.iquest.com/pub/windows/papa/WWW-Browsers/NetScape/

ftp://ftp.luth.se/pub/infosystems/www/netscape/netscape/

To run Netscape under Windows, you also must have a version of Windows Sockets to provide the necessary TCP/IP support. I recommend Trumpet Winsock, which you will find under the filename **twsk20b.zip**.

And here is a recommended set of additional utilities to round out a basic set of clients. All of these are available in appropriate directories at both the Indiana State archive and its mirror at Iquest.

Application	Utility
Telnet	**ewan1052.zip**
FTP	**ws_ftp.zip**
E-mail	**eudor144.exe**
News	**winvn_9902.zip**
IRC	**wsirc14e.zip**
Talk	**wtalk121.zip**
Audio	**wplny09b.zip**
Video	**mpegw32e.zip**

The MPEG utility also needs **win32s.dll** to run properly on 32-bit CPUs.

Any of these may have later version numbers by the time this is printed than those listed here. Take a later version if you find it, but don't accept an earlier version. There are many other options besides those listed here, and personal preferences played a role in compiling this list. Others might compile a different, but just as effective list.

These utilities are not usable with DELPHI unless you are participating in the beta test or afterwards when it is released to the membership. They are usable with SLIP or PPP accounts or emulated SLIP accountsunix shell accounts enhanced with either TIA or Slip—Knot to emulate SLIP/PPP functions.

Walt Howe is DELPHI's Internet Special Interest Group (SIG) Manager. He campaigned for the DELPHI job after retiring from 32 years as a cryptanalyst, Signals Intelligence trainer, technical writer, training developer, and training manager for the Army. The switch from training soldiers to gain intelligence from signals to helping new Internet users to navigate the Internet was a natural one. Walt estimates he has helped 300,000 people to learn to navigate the nets on and off DELPHI.

Walt is the author of *Internet Basics* with co-author Steve Lambert. He is married to Internet expert Hope Tillman, Director of Libraries at Babson College. They met each other on the nets, of course.

Walt encourages people who want to learn about the Internet to take advantage of DELPHI's 10-hour free trial. Dial **(800)695-4002** by modem, login as **JOINDELPHI** and use the password **INTERNETSIG**. If you have questions, send email to **walthowe@delphi.com**. Or visit his web page (address above) for more information.

PRESIDENT ALAN BARATZ LETTER TO MEMBERS

In a letter to DELPHI members, dated April 15th, President Alan Baratz' offered this look into the future:

"As a launch point for Netscape Navigator and other applications, we're developing a new graphical user interface. This exciting advancement (we're leapfrogging the older, proprietary technologies of the "big three" online service providers) will first be available for Microsoft Windows 3.1, or higher, and others shortly thereafter. The new GUI will give our service a distinct look and feel. We're developing and testing it extensively so we can bring you the best product as soon as possible.

"Some of you were concerned that a graphical interface might slow you down. While graphical interfaces do require more overhead to run, we're making it a priority for our new interface to perform quickly. The interface will provide continued functionality while downloading, and will allow you to perform off-line functions such as reading and writing e-mail, and viewing Web pages saved to your hard drive.

"At this point, our plan is to also continue offering the existing text-based service as long as there is a significant demand for it."

The last words are encouraging to those who are using older computers and those such as the visually impaired, who cannot use a graphics interface or a mouse.

DELPHI'S WEB SITE CONTINUES TO ADD FEATURES

Although DELPHI members cannot take full advantage of it, DELPHI continues to develop its own web site. In addition to the Young America pages tracking the America's Cup trials and the FX features, DELPHI continues to draw on News Corp.'s resources to add new features. Featured as this is written are interviews with author Richard Dawkins and excerpts from his new book ***RIVER OUT OF EDEN: A Darwinian View of Life***. Coming features will look at Bruce Willis' next movie and the Power Rangers movie.

You can visit my home page, too, at the following address: `http://www.delphi.com/walthowe/walthowe.htm`

CUSTOM FORUM UPDATE

The screen capture from the Custom Forum Directory area shows the new Custom Forums that have been added by Delphi members between mid-March and mid-April. It is quite a diverse collection.

Custom Forums come and go. Some new hosts put hundreds of hours of effort into building a popular service. Some hope to build up to large numbers and SIG status where they can get paid for their success. Others are happy to keep a small group of friends or associates and pay the small monthly fees to have their own area. Some succeed in what they try to do and others fail. Success can be measured in many ways. Everyone learns something from the effort, but not always what the host thought he or she was going to learn. ◆

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PRODIGY by Ric Manning

PRODIGY TEAMS WITH BABY BELLS AND IBM TO OFFER ISDN LINKS

Ric Manning writes about computers and technology for *The Courier-Journal* in Louisville, KY. His weekly column on consumer electronics is syndicated through the *Gannett News Service*. Ric reads his e-mail at `ricman@iglou.com` on the Internet, and `USJM92A` on Prodigy.

Last year Prodigy was supposed to be paving the road to online nirvana with coaxial cable. This year it's back to twisted-pair copper but with a digital modem on the side.

While Prodigy says it's not snubbing the cable-delivery concept, it's now snuggling up close to the Baby Bells and Integrated Services Digital Network—the technology that's supposed to make high-speed data connections affordable for home and small business users.

The deal that was supposed to roll out in May would get you IBM's WaveRunner modem, an ISDN line and a direct connection to Prodigy for **$495**. With ISDN, customers should be able to get Homework Helper, WebBrowser and other Prodigy services at 64 kilobits per second—more than twice as fast as the rated speed of a 28.8 kbps modem.

IBM also dangled the promise of even faster speeds. By combining two of the three channels in an ISDN line, users can get throughput of 128 kbps. Ed Harbour, IBM's product manager for ISDN, said the company will eventually release software to allow that combination.

The ISDN deal pairs Prodigy and IBM with three Baby Bells BellSouth, Nynex and Pacific Bell for roll-outs in four cities: Boston, Nashville, San Jose and Woodland Hills, CA. Prodigy spokesman Brian Ek said the service chose those cities primarily because ISDN rates in those areas are similar to prices for conventional residential phone service. Here's what the Bells will charge for an ISDN line in a home that already has a standard phone line:

Boston: **$47.40** for installation, **$41.70** a month and up to 2.6 cents a minute in usage charges.

Nashville: Free installation, **$29.95** a month and no usage fees.

San Jose and Woodland Hills: **$125** to install the modem and software, but the fee is refunded if you keep the installation for two years; **$29.95** a month and 1 cent a minute after the first minute for daytime and weekday usage, no usage fee evenings and weekends.

"We wanted to get the pricing more in line with what the consumer will pay," Ek said. "We felt it was important to make some commercial introduction and get real live people to pony up real dollars. Once we get some real hard evidence of what the consumer will buy, we can go back to the RBOCs and say this is what it's going to take to drive ISDN forward."

Prodigy officials said they have no particular new products to offer that would take advantage of high-speed connections. Even ISDN speeds aren't quite fast enough to make real-time video practical. But Prodigy Ek said downloading video clip files will have a lot more appeal. A 30-second video clip would take less than five minutes to download with ISDN, compared to 10 or 15 minutes at 9600 bps.

Prodigy President Ross Glatzer said the company plans to pursue video clients such as HBO and CBS. "We clearly will talk to them about new stuff," Glatzer said. "We're going to leverage that relationship."

Prodigy also announced a faster roll-out of high-speed access points. Tom Isaacson, director of network planning, said Prodigy will have 28.8 kbps access available in nearly 400 communities by the end of 1995.

MULTIMEDIA MAIL

Mailing snapshots home to grandma took on a whole new meaning this spring when Prodigy introduced multimedia e-mail. The service, which started in April,

lets members attach a digitized photo or sound file to messages prepared with Prodigy's online mail system. Multimedia mail looks a lot like the pictures and sounds that Prodigy attaches to its news reports, according to Paul Gangi, who manages Prodigy's e-mail products.

"When you receive the message there will be a but-

ton to click," Gangi said. "You might write 'Here are the kids in their Halloween costumes' and when you click on the button, the photo will paint over the top of the message." Subscribers can attach .WAV sound files without any help from Prodigy. But to send pictures, they need to have photos digitized by Seattle FilmWorks, a Seattle-based photofinishing company that also provides special viewing software.

Here's how it works: members purchase the software from an online shopping section on Prodigy. For about **$5** they get the software, a 24-exposure roll of 35 mm film, a coupon for free developing and a mail-in envelope. After shooting the roll, members mail it to Seattle FilmWorks. The company returns prints from each frame on the film plus a high-density floppy containing a compressed image of each picture. Using the viewer software, members convert the images from Seattle FilmWorks' proprietary format to the conventional JPEG format supported by multimedia mail. The software also supports more than 50 other formats.

Seattle FilmWorks' Bruce Ericson said subsequent orders will cost members **$9.95**. The price includes another roll of film. He said the company will also digitize 24 prints or slides for the same price or 24 negatives for **$11.95**.

Gangi said the system will probably be expanded later to include other photofinishing companies. Eventually, he said, "we'd like you to be able to walk into your local photo store, give them a negative and have them deliver the digitized photo to your Prodigy mailbox overnight."

NEW PRICES

With the soaring popularity of Web surfing, five hours of online time just isn't good enough any more. That's why Prodigy has introduced a new 30/30 plan: 30 hours a month for **$30**, with additional hours at **$2.95** each. The new rate option applies to news, sports, financial news, shopping, games, e-mail, chat, bulletin boards, and content for kids. It also includes Usenet newsgroups and Prodigy's Web Browser.

For people who are not heavy Internet users, Prodigy will continue to offer its original pricing structure, a **$9.95** fee for five hours of access with additional hours priced at **$2.95** each.

PRODIGY WINS SHOOT-OUT

Prodigy was declared the winner in a head-to-head comparison of online services at a recent Internet trade show in San Jose. Prodigy scored 58.8 points, CompuServe got 26.0, and America Online 10.2.

Each of the three services were scored on how well and how quickly they performed unrehearsed tasks involving the Internet. Each was asked to send and receive Internet messages, locate and post to Usenet newsgroups, find and retrieve a file via anonymous FTP, use Gopher to locate and download a specific file, and demonstrate the full range of their browser features.

Internet World also compared the services' Internet pricing based on average usage of one hour a day for a month. Prodigy cost **$30**, CompuServe **$44.45** and AOL **$83.70**. A spreadsheet with all the scores is available on Prodigy's AstraNet home page (`http://www.astranet.com`) Also try `http://www.prodigy.com`.

SHORT JUMPS

Agence France-Presse reported that a test of Vietnam Prodigy was suspended because smut-sniffer software was overloaded by repeated use of the word "sex." Because tonal marks required by the Vietnamese language are not correctly shown on the computer screen, Vietnamese users rely on Roman letters to indicate those marks, causing the letters "sex" to show up in about 85 percent of all messages . . . Prodigy and multimedia CD-ROM publisher Allegro New Media plan to provide online links to the company's *Allegro Business 500* CD-ROM. The CD-ROM will use embedded links to let users log on to Prodigy to receive stock quotes, news and for access to the online brokerage service PCFN . . . Prodigy has eliminated its 1-cent-per-kilobyte upload/download charges for members who use offline software with e-mail and bulletin boards. The move coincided with Prodigy's introduction of multimedia mail, which creates significantly larger files . . . Web cruisers who want to try out Prodigy don't have to call the company for installation discs. Now they can download the software from Prodigy's AstraNet home page (`http://www.astranet.com`). The software includes 10 free hours to try the service . . . America Online isn't the only service with growing pains. In March, Prodigy subscribers lost nearly 5,000 messages when software designed to speed the delivery of Internet e-mail instead sent the mail to the dead letter office. ◆

GENIE by Lenny Bailes

LOOKING INTO GENIE

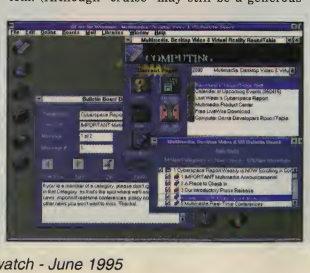
April was an eventful month for GEnie. On April 11th, the "full access" Internet gateway was opened for beta testing, and a new version of GEnie for Windows was released. Mark Walsh, the former president of GEnie Client Services, resigned in April to take a job with America Online. Douglas Perkins, the new head honcho of Client Services, issued an open letter to the GEnie membership. The letter was filled with pledges to upgrade GEnie and bring it up to the level of other popular online services.

Lenny Bailes is a PC consultant, writer and teacher living in the San Francisco Bay Area. He is a contributing editor for *Microtimes: a California computing magazine*, and co-author of Byte's *DOS Programmer's Cookbook*.

The improvements made during the month of April added a number of useful enhancements to GEnie. The new Internet features are both more and less complete than the competing options offered by Prodigy, Compuserve and America Online.

Although GEnie isn't offering graphic-based access to the World Wide Web, an impressive complement of other Internet access features are now available to users. A GEnie member can now get the same access to gophers, archie, ftp, WAIS, telnet and USEnet news that's offered by other services in a UNIX shell account. Internet Sysop Andy Finkenstadt was also able to incorporate Lynx into the system, giving GEnie users text-based access to the Web.

GEnie for Windows, v.2, is finally a well-designed point-and-click interface for GEnie. The new frontend is almost a 100 percent improvement over the previous version, taking GEnie for Windows out of the embarrassment class. The embedded buttons and nested menu options provide a reasonably intuitive way for new users to cruise through the system. (Although "cruise" may still be a generous



adjective to describe the slightly sluggish performance of GEnie for Windows at 9600bps.) The new interface is logically designed, and includes the much-needed ability to gather Roundtable messages, read, and reply to them offline.

Given that the Windows GUI is masking and interpreting the text-based operating system on GEnie's mainframes, it's an impressive accomplishment. Most of the underlying GEnie features have been successfully transferred to icon options. The exceptions to this are the more advanced search options for messages in the Roundtable forums. But unlike the first version of GEnie for Windows, this one does permit you to go into Roundtables, check individual topics, categories or messages and automatically download them to a file cabinet for offline browsing.

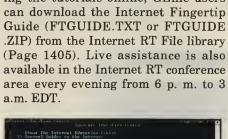
GEnie for Windows v.2 appears to be free of bugs. The interface is attractive enough to the eye that it may entice new members to prolong their online sessions and spend more money. A new frontend for the Macintosh is also being developed, but is not yet available. The existing GEnie for Macintosh version has an interface similar to the previous version of GEnie for Windows, with offline capability only for e-mail, not Roundtable messages. More experienced GEnie users who log in from Macs generally prefer telecom programs like White Knight or Microphone. (Online Servant, an earlier GEnie frontend for Mac, is also popular.)

Starting in April, GEnie's prime time surcharge was reduced to **$2**/hr (**$3**/hr in Canada). With the base hourly fee of **$3/$4**, this makes the daytime access rate **$5/$7** (US/Canada) at 2400 bps. If you dial in at 9600 bps you get socked with another surcharge that can vary from **$2** to **$6**, depending on the type of dial-up connection you use. Although the April price reduction is a step in the right direction, GEnie is still the most expensive commercial online service on an hourly basis. It's a good bet that most paying GEnie customers will continue to be nightowls.

To date, GEnie has retained its userbase mostly because of its appeal to hobbyists, tinkers, writers, and musicians who enjoy the relative quiet of an online backwater. Since other online services (and Internet providers) offer cheaper connect rates, it remains to be seen whether the easy-to-use graphic frontends will be enough to attract more users to GEnie.

Internet through GEnie is not the simple push-button ride you get with Prodigy or AOL. However, the GEnie staff and sysops should be given credit for

their effort to make the membership Internet-literate. The GEnie Internet Area (Page 5000) has a variety of excellent tutorial options. The GEnie Internet team hopes to educate new users in the finer points of Telnet, FTP, the Gopher system and other basic information gathering skills. The idea is to avoid turning loose a horde of people who just point and click at anything that moves. In addition to viewing the tutorials online, GEnie users can download the Internet Fingertip Guide (FTGUIDE.TXT or FTGUIDE .ZIP) from the Internet RT File library (Page 1405). Live assistance is also available in the Internet RT conference area every evening from 6 p. m. to 3 a.m. EDT.



GEnie's Internet tools are organized on a logical menu system, and prefaced by helpful instruction messages. The UNIX-based ftp and archie utilities take more thought and attention than using Netscape or WS_FTP on a PPP account, but they work. The GEnie team has done an amazing job of making Internet over a dial-up connection palatable. Even the text-based World Wide Web browser looks attractive (with ANSI color running inside of the Windows frontend). ANSI graphics will also be supported soon for DOS telecomm programs running Lynx. GEnie's overall marketing plan calls for this preliminary Internet service to be enhanced in Phase II — perhaps by adding graphic WWW access through SLIP emulation.

This month, GEnie LiveWire turns a spotlight on travel and vacation planning. The feature articles include reviews of a number of travel planners for both Mac and PC. These programs can pop up detailed roadmaps for specific states and cities. They can be used to plot a trip between two designated cities, estimating mileage and gas expenses for a shortest-distance trip or for a scenic excursion. The Mac RT Software Library (Page 605) features MACMAP.SIT, a dynamic map of the state of Oregon, and SW ROADS 1.3.SIT, maps of California, Nevada, Arizona, Utah, Colorado, and New Mexico.

The PC RT (Page 615) has ROAD310.ZIP, a DOS-based map collection, in Library 5. Vacation Planner (TRIPLAN.ZIP, in Library 7) includes a built-in map editor that can add, delete, or modify existing routes or create your own custom route maps. NCOMPASS (NCPMASS.PAK) is a Windows mapping-navigation-trip planner. To unpack NCPMASS.PAK, you'll also need to download PAK251.EXE, available in PC Library 1.

The Amiga *STARSHIP® library (Page 555) includes AROUTEFD_114.LHA, a map/travel planner for trips taken in Germany and Switzerland.

The Multimedia Product Center (Page 2001) includes pointers and instructional articles on transferring vacation snapshots to paper prints and digitized images. The forum can also give you a good steer to bargain deals with commercial printing services.

Gallery 44 (Page 44) is GEnie's online virtual art show. It includes computer-generated work from a number of different artists on various themes. The eerie "EGGHENGE" montage floating around this column took first place in GEnie's Easter Art contest.

If you're an OS/2 user, you might be interested in checking out three new shareware telecommunication packages available in the OS/2 RT library (Page 1405). InterComm (**IC_90.ZIP**) has drag-and-drop support for downloads and dialing directories, a built-in Telnet client and support for REXX scripting. ZOC (**ZOC204.ZIP**) includes VT-102 terminal emulation and an online JPEG graphic viewer. Protalk (**PROTALK1.ZIP**) includes an internal script language.

Last month, the GEnie BBS and Telecommunications RT (Page 610) featured an online conference with Tom Wildoner, the author of over 30 different door additions to various BBS software packages. The discussion centered on how to use doors to attract users to a

BBS system, and a nuts & bolts Q&A for Sysops interested in solving problems and enhancing their BBS systems. The transcript hasn't been posted to the RT libary yet, but the Telecomm RT library does have an awesome number of doors, utilities and other enhancements for your BBS available for download.

The ShowBiz RT (Page 185) hosted a live realtime conference during this year's Hollywood Oscar award ceremony. If this was anything like the Hugo RTC we had in the Science Fiction & Fantasy RT, users got the benefit of being able to virtually upstage David Letterman and make snider jokes, while receiving on-the-spot descriptions of the attendees' reactions and award results.

And that's it for this month. If you're interested in joining GEnie, dial **(800)638-8369** with a telecommunications program set to N,8,1 and enter **JOINGENIE** at the prompt. The voice number for GEnie client services is **(800)638-9636.** ◆

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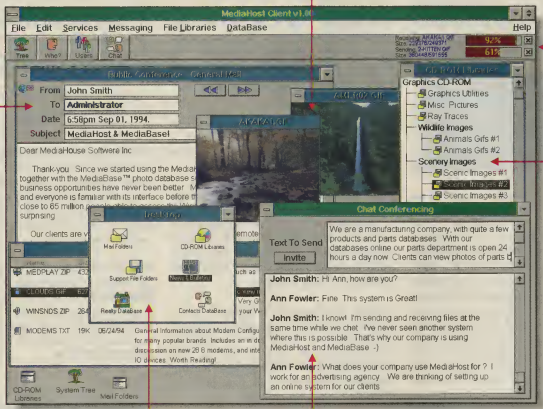

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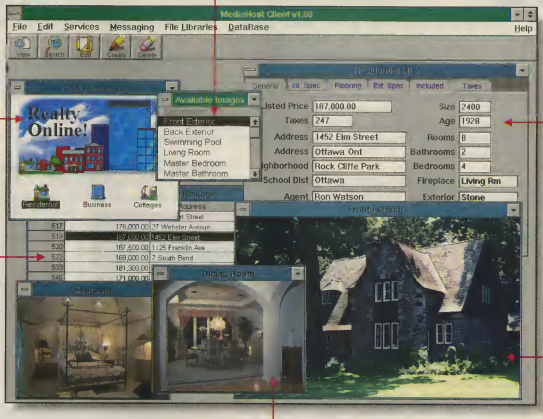

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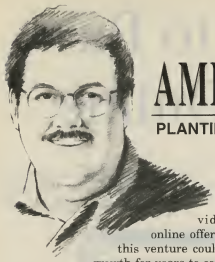


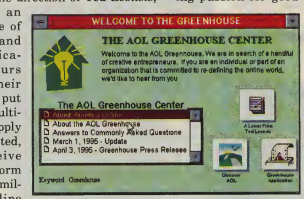
AMERICA ONLINE by Dave Tennant

PLANTING SEEDS IN THE AOL GREENHOUSE

America Online, (NASDAQ: AMER) is spreading around seed money to provide bulk and diversity to its online offerings. Dubbed the Greenhouse, this venture could prove to fuel AOL's content growth for years to come. AOL has taken a page out of Microsoft's playbook by developing an industry standard, easy-to-use interface for the Internet, acquiring technology when it hasn't had the ability, time, or inclination to develop it in house. Now AOL is working to help independent contractors - Infopreneurs as AOL likes to call them - to become information providers in their own right within the AOL environment.

Dave Tennant is an Economics and English Instructor in Southern California. He can be reached on America Online at "*Dtennan*" or on the Internet at **dtennan@eis.calstate.edu**

Founded just six months ago by the Online Services division of AOL under the direction of Ted Leonsis, The Greenhouse drew an extraordinary response of over 10,000 inquiries and 1,700 completed applications from infopreneurs seeking a leg up for their ideas. The Greenhouse put out the call for bright, multimedia-savvy people to apply to the program. If accepted, applicants would receive help from AOL in the form of access to more than 2 million AOL members, online promotion, Internet publishing support, online production support (including total utilization of AOL's publishing tools, graphics and photos), and seed equity funding.



In early April, AOL announced the selection of their heretofore relatively unknown infopreneurs, six companies that now have the opportunity to team with interactive marketing partners in and out of AOL for assistance in jump-starting the development of new revenue streams and leveraging CD-ROM-to-online opportunities.

Some industry wags and pundits are calling 1995 the "Year of Stupid Money," as online services fall over each other "investing" in what John Dvorak described as the latest and greatest gamble to buy THE Internet killer app. Some observers in the industry see The Greenhouse as AOL's attempt to beef up a rather shallow and not-so-well cared-for collection of forums and interest areas. But AOL has established a solid pattern of providing a broad base of low cost easy-to-use online information, and with the diversification of AOL into its distinct divisions, they've remained consistent to the idea of focusing their efforts on enhancing the provider side of the equation and giving a great measure of freedom to the information side of the online business.

This first round of Greenhouse participants is an eclectic mixture which includes cooking, health, sports, financial investment, entertainment, Afrocentric culture, and fitness. Following are profiles of all six Infopreneurs:

THE eGG, INC.

Kate Heyhoe and Thomas Way, co-publishers of The Electronic Gourmet Guide (eGG), are hopefully mixing passion for good food and cooking with good business sense. Way will manage the technological end and Kate, who has in the past run her own restaurant in Italy and traveled the globe in culinary pursuits, will make culinary offerings on the Internet (a food channel for the "I-way"). Currently published on the World Wide Web, the eGG site is the prototype of what will soon be created on America Online, a new form of media for cooks and food writers, attracting award-winning chefs and journalists as contributing editors.

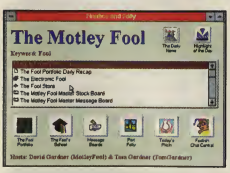
HEALTH RESPONSEABILITY SYSTEMS, INC. (HRS)

Health and medical information is as important as ever, and AOL's Better Health & Medical Forum (keyword: HEALTH) is set to grow as members find and make use of this relevant area. As part of the AOL Greenhouse program, HRS will take the already existing service into new venues and levels of interactivity, user friendliness, and depth of content. Allen Douma, M.D and Elin Silveous have nearly 35 years of experience between them in health care and education. HRS developed AOL's existing Health and Medical Information Forum which has become a nationally recognized, multimedia health, medical information, and communications system designed for use by both consumers and health professionals.

INTERZINE PRODUCTIONS, INC.—iGOLF

InterZine, founded by Brian Henley and golf writer Gary Galyean, debuted with a special event covering the Masters' Tournament this April. InterZine was chosen by the Greenhouse to develop interactive products and services for the golf industry under the iGOLF brand name on both America Online and the Internet's World Wide Web. iGOLF will be in the new AOL Sports channel under GOLF and via AOL (Keyword: GOLF). It will also be found on the Internet at **http://www.igolf.com**.

iGolf provided on AOL a complete overview of the Masters' competitors, along with continuous results and commentary by leading writers and broadcast personalities in the golf industry (complete with attitude). It then went offline but should be back and available by the time this edition hits the stands.



MOTLEY FOOL, INC.—PERSONAL FINANCE, ENTERTAINMENT, SPORTS, POP CULTURE

Probably the most eclectic and interesting new forum in all of AOLland is Motley Fool, Tom and David Gardner's small investment newsletter which has turned into one of the most popular online personal finance instruments. Begun last summer on AOL, The Motley Fool has lured hundreds of thousands of investors and would-be investors to peruse their picks and put up their best against the standards.

The Motley Fool's stock picks have outperformed the market as a whole by more than 150 percent! The Greenhouse project assists the colorfully clad icon in branching out into the areas of entertainment ("Follywood"), sports ("Fool Sports") and popular culture ("Route 66"). This forum is worth checking out (keyword: MOTLEY)

NETNOIR, INC.—AFROCENTRIC CULTURE

Founders E. David Ellington and Malcolm CasSelle have a mission for NetNoir: to digitize, archive and distribute Afrocentric culture. NetNoir, Inc., will launch a series of online services called "NetNoir Online" which will serve as a "cyber-gateway" between the traditional online world and Afrocentric culture, according to AOL. NetNoir Online's scope is global, including Afro-Caribbean, Afro-Latin, Afro-European, continental African, as well as African-American cultures. Featuring music, sports, education, forums on politics, news, business, religion/spirituality, the arts, travel, health, lifestyle and broadcasting, NetNoir will also provide a wide range of interactive services, including distance learning, online shopping, and advertising. NetNoir was not available on AOL at press time.

WORLD PULSE, INC.—HEALTH ZONE

Sensing the need to empower women through technology, World Pulse founders Sarah Browne and Elizabeth Q. Donovan will create a new online electronic environment for America Online and the Internet called Health Zone, the first fitness club in cyberspace. AOL press releases state that the Health Zone will contain a series of services designed to appeal to health-conscious Americans (read that - those who are not cyberslugs). One of these services, Nutricheck, will electronically keep track of the weekly counts of a member's fat, calorie, and nutrient count for the day and at the end of the week will calculate totals plus potential weight loss or gain.

If the Greenhouse project is successful in the long run, AOL will have a series of smarter companies ready to take their applications further into the emerging multimedia environment in whatever form it takes. These startup companies, if successful, will follow the old political adage that you "dance with the one that brung ya!"

AOL AND TALKRADIO

AOL is lining up content from several different mass-media channels. Besides providing information, news flashes, forums, and conferences from the media giants of television (ABC, NBC, MTV) newsprint (New York Times, San Jose Mercury News, Chicago Tribune), and movie studios (Warner Bros.), AOL is continuing to branch out into one of the most popular and intimate forms of media today, Talk Radio.

From anywhere in AOL, keyword RADIO and the forum box "Entertainment's Radio Forum" will take you to such choices as NPR Outreach, American Entertainment, Ham radio, Computer radio shows, and Soundbites, a unique takeoff on online comedy and theater for the ear.

Since high school days, I have listened to local Los Angeles station KABC Talk Radio, first to Ken and Bob and now the Ken and Barkley Show, and also to Dennis Prager, Michael Jackson (not the pop star) and Peter Tilden (the funniest man on radio). Anyone lucky enough to get through to the Ken and Barkley Show has always been treated to gentle humor and light banter, as well as occasional dinner passes to local restaurants.

Recently though, Ken and Barkley have been adding another number to their call signs, fax numbers, and phone numbers; they have been announcing their AOL address and inviting e-mail. (**Kenbarkley@aol.com**) This is not new; Tom Leykis, Rush Limbaugh, and a host of other talk show hosts have been doing this for several years now. But it means that radio is getting even more interactive. For example, keyword ABC and click on the "Radio" area to send messages to Paul Harvey, Howie Carr, Lynn Samuels, Mike Joseph, Bob Grant, or for really crummy radio - Joe Crummey.

NPR is on AOL's Radio Forum and provides members with another method of

enjoying radio. Members can view pictures and interact with Talk Radio personalities, send letters sharing their points of view immediately, or download transcripts of shows. (This has been mentioned before in this column but it bears repeating. AOL is a wide-open channel to the treasure trove of transcripts out there in radio land, and NPR is just one example.)

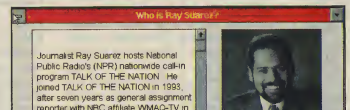
For the last few years I have taken to listening to National Public Radio, a solid performer in news, information, analysis, and talk shows (such as Larry Mantle's Air Talk). Despite the current desire of the Republican Congress to elminate its public funding from the federal budget, NPR's in-depth coverage on shows such as Morning Edition and All Things Considered bring a high level of content not generally known on radio bands.

In the NPR forum listeners can interact with Talk of the Nation hosted by journalist Ray Suarez, a former NBC, ABC, and CNN reporter. With AOL's new version software (v.2.51 for the Mac and v.2.0 for the PC), members can now put a face to the name and voice as soon as the forum and TOTN is accessed. An interesting aspect of AOL's forum is that Suarez has a posting of a type of resume which tells in brief detail the experiences he brings to his NPR assignment. AOL members have the opportunity to not only learn background on the radio personalities to whom they listen but now AOL offers a much more personal kind of access to these emerging and increasingly popular personalities.

AOL has improved their downloading process by making it possible to preview a GIF or JPEG before downloading the file. Click on the "description of file" button and a small version of the picture will show up on the right side of the box. This saves tremendous amounts of time downloading pictures which in the past you may later decide weren't worth the download time.

For talk radio that deals specifically with computer, home, car, or other topics, go to the Radio Forum and click on American Entertainment Network Online (Keyword: AEN). Members will have access to such radio celebs as Lowell Ponte (**Lponte@aol.com**), the roving reporter for Readers' Digest who is also heard on the AEN weekends 6 to 9 PM, or Jeff Williams, radio's answer to Tim Allen and Bob Villa on home care. Dre Brungardt (**DrDre@aol.com**) is the host of Nutz & Boltz, a radio show about cars and everything automotive on Saturdays from 11:00 am to 2:00 pm Eastern. If you can't get through with your question on the air, leave him a message via E-mail on AOL or order a tape of various shows.

"On Computers," is yet another topic-specific call-in computer "how-to" radio program targeted to consumers. Broadcast weekly on Sundays 1:00-4:00pm Eastern Time from San Francisco, On Computers is hosted by Jerry Kay and Gina Smith. The station list of the AEM is available in the forum to check on showtimes nearest you.



If you are a ham—a radio ham, that is—enter the keyword HAM RADIO and you'll find a forum offering up-to-date information on radio searches, conventions, various clubs around the country, and call sign updates. Forum host Terry Stader (**Tstader@aol.com**) says the forum helps users access the software exchange, with areas for Mac, Apple II, DOS machines, as well as a short wave and a space radio news library. It's a "... meeting ground for all who have interest in the world of radio... including those that can communicate with the shuttle astronauts as it orbits around the earth to the guys and gals that tune in their favorite public safety agency as they deal with the day-to-day situations around us all."

The American Radio Relay League, a non-commercial association of radio amateurs who promote radio communication and experimentation, figures prominently in this forum, providing among other things a unique electronic tour of the ARRL headquarters. Their conference features Wednesday night roundtables and Thursday night discussions. Stader says of the role of online activity, "Our voice on AOL is through the recognition of a friendly screen name... knowing we often share common interests. Sometimes we DO get the chance to actually meet face-to-face... it is not necessary but many times adds a new depth to friendship." If you are a ham it bears "rooting" it out.

One of the more interesting buttons in the Radio Forum is Soundbites. Soundbites is satire, or comics for the radio. The people at Soundbites tell us they exist to remind us online not to take ourselves too seriously by using satire to "puncture pomposity, deflate the self-important" and provide general comic relief.

Sound bites can be downloaded to your computer, and with the proper sound utility (WAV player for Windows, sound tool for Mac) it can provide a few good yuks. Soundbites are taken from all aspects of our society from news to sports, to politics, and each file averages about three minutes in duration. The people at Soundbite, Inc. offer their collection on a CD; last year's 1994 version called appropriately enough, "The Year of Living Shamelessly." Blending what they call in their literature "media mulch" with network news, the CD is an irreverent "listen" to the year of "...criminal celebrity, failed health care reform, public airing of personal secrets," and shameless political muckraking. The 74 minute long CD and cassette programs have played in hour-long specials on NPR in December, 1994 and January, 1995. Members can try some of them from the download section and if you're hooked, order the CD from online.

Soundbites come in .WAV formats and so have to be converted to hear on the Macintosh. Macs like to use sound files in the .SND format so users can download "Brian's Sound Tool," a free program which will convert .WAV files to .SND files and vice-versa. Double-click on "Sound Utilities Library." Select "Brian's Sound Tool." If you wish to download immediately, click on the "Download Now" button and choose a destination. If you'd rather wait, click on the Download Later button. The program will be added to your AOL

Download Manager list (in the File Menu). The Sound Tool takes about 15 minutes to download at 2400 baud, and about 4 minutes at 9600. AOL provided the following information for Mac users to follow once Brian's Sound Tool is on your computer.

System 7 - Double-click on the Brian's icon to open. Select "Open" in the File menu. Find the .WAV sound you wish to convert. Click on "Save." Type the destination. Click "Save" again. Brian's will do its magic and a .SND file of the same name will appear at the location you specified.

E-Z Convert-and-Play Combo: Put Brian's Sound Tool (or an alias of Brian's) on your Desktop. Then look in Brian's File menu. Select "Preferences" and "Play upon Conversion." After you've downloaded a Soundbite, drag the Soundbite's .WAV file icon over to the Brian's icon. Listen.

Once you have converted a .WAV to .SND, you can drop the .WAV in the trash. Brian's works in reverse, too. Open a .SND file and you'll get a .WAV result. Several other sound format conversions are possible, too. More info is in the "About Brian's Sound Tool" in the Apple Menu.

System 6 - You'll need a "SoundMover" or "SoundManager" DA to install Brian's. Either is available in the Mac Utilities Library. Use Keyword: FILE SEARCH, then type in "SoundMover." For further information (and entertainment), read the documentation attached to Brian's Sound tool."

Soundbites is a lot of fun but hard to get to in the sense that if you don't know where to go, you won't get there. Soundbites should have a keyword for more direct access. These are the kind of humor things that members like to make a quick sign on and sign off for. What would be even better would be a script page one could subscribe to.

AOL continues to add new and novel content at a breathtaking pace. Watch this column for the cream of the crop.◆

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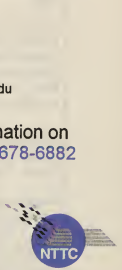


TWO BABES ON-LINE

- TWO BABES ON-LINE
- NEWSPAPERS ONLINE

Some do it for love, others for money. Liz Du Bois and Barb Baldwin started a business because they "got tired of making fat, middle-aged white men rich," as president/CEO Du Bois puts it. What began as the support BBS for their Windows VAR enterprise has evolved into Two Babes On-Line(tm) (**(206)882-0487**), purportedly "the largest women-owned adult BBS in the entire world." It's a 65-line WildCat! system that generates six-figure profits. Infopreneurs of any gender can learn some precious lessons in dedication, boldness, and business sense from these two "babes."

Du Bois and Baldwin met via e-mail in 1989 and became tennis partners. Baldwin was "burnt out" on the insurance business. Du Bois had a lengthy (but youthful!) background in marketing and advertising; she was Quantel Computer Corp.'s first female director of marketing communications. Both were fed up with the male-dominated corporate world. So they formed Two Babes Ltd. and sank their lives' savings into inventory, demo and training facilities and — almost incidentally — a two-line, 2400 bps support BBS.

It wasn't long before the ladies began to look at the BBS in a new light. They decided that "profit centers are more fun than expense items" and that a BBS had all the characteristics of an ideal service business: no inventory to carry, no product obsolescence and *high profit margins!*

With the medium chosen, the ladies moved on to their message — the theme for their BBS. They looked at what was selling on other BBSs and sure 'nough — they chose sex. But not sleaze, please.

Approximately 99.44 per cent of Americans seem to equate "adult entertainment" with smut and perversion, with the predictable result that an equal percentage of the adult entertainment available *is* smut and perversion. Du Bois and Baldwin wanted to sell sex because it makes money. They also wanted to become better — more profitable — at selling sex than anyone else; that meant selling sex in a way that was *different* from the way 99.44 per cent of other vendors sell it.

What makes Two Babes On-Line different is that its adult entertainment is genuinely adult. First of all, no one under the age of 21 is allowed to subscribe. A combination of voice verification, registration only via credit card, and (in highly suspicious cases) submission of a driver's license photocopy helps enforce the age limit. Why not admit 18 year-olds? Mainly because 21 years is the safest policy for a national service, says Du Bois, but also because the college-age crowd generally lacks the real-world experience that qualifies one to participate in "real" adult conversation. Most of them don't have mortgages, kids or jobs; haven't been fired or divorced; and aren't ready to talk about such things.

Messages and chat are generally flirtatious and salacious, but also intelligent and sensitive. Members use good manners and common courtesy, such as one would expect in face-to-face conversations where rudeness and crudity can be hazardous to one's health. The conversation involves more than just sixty ways to meat your lover (sic); the political and religious discussion forums are the most active message areas on the BBS. The "Ask Nurse Nancy" forum is a place to inquire about safe-sex and general health matters, hosted by a practicing nurse.

Women find Two Babes On-Line a safe and supportive place; about 20 per cent of members are female. Du Bois, Baldwin and their staff maintain a strict "No means NO" policy to discourage juvenile harassment. You get just one warning if another member complains about unwanted e-mail or chat requests. A second violation results in permanent expulsion from the Two Babes On-Line community — with no refund of unused subscription fees paid. Members apparently value their access privileges; only three have drawn the ultimate punishment out of over 3,000 subscribers.

Du Bois cited one example of a woman who counts on Two Babes On-Line for adult, non-threatening company. This mother of five small children barely has time to breathe, let alone get out of the house to enjoy adult company. She logs on to Two Babes early in the morning, during nap times, whenever she can grab a few precious minutes of solitude. Blithely switching from baby talk to "Oh, Baby!" talk to "Why'd I ever have a baby?" talk, she enjoys a number of fulfilling electronic personae and friendships.

Women get free admission to Two Babes On-Line, a practice that has drawn fire from "fat, middle-aged white men" who resent what they see as favoritism. Du Bois rebuts these arguments with her own: 1) it's a fact that women earn much less than men, and

many could not afford to be online if they paid the same rate as men do; 2) women are scarce online, and free admission for women fosters a more balanced membership. Three gender-transiting members — one going female-to-male and two headed the other way — have posed some interesting policy questions. Du Bois decided that since sex and cyberspace happen mostly in one's mind, the mental and emotional gender of a caller is the appropriate criterion for determining whether he/she gets free admission.

Evincing a sexual interest in children is the quickest way to get bounced from Two Babes On-Line. The pragmatic and liberal Du Bois is unequivocal on this point. The board has had only one pedophilic incident in which a member posted messages asking if others were "interested in little kids" in a way that was not parental. After one private dressing-down, the management kept close tabs on this member's messages and booted him after he made a second overture.

They also called the cops, a courageous act for a business that depends on the trust of its customers. The police placed the suspect under surveillance, and within a week busted him as he tried to pick up a seven year-old girl at a playground.

File-sucking is a prominent activity, of course. Two Babes On-Line controls its legal liabilities by not accepting uploads from callers to public directories. However, you can upload a file as an attachment to a private e-mail message to a specific user, subject to the board's anti-harassment rules. The file libraries include 84 CD-ROM discs — approximately 57 gigabytes in over 300,000 files. Fifteen of the 84 discs contain a wealth of shareware for home, business and technical applications. The rest are "sexually explicit" files ranging from swimsuits to rubber suits.

Marketing is a high priority at Two Babes On-Line. Management closely tracks the sources of new callers and allocates advertising efforts accordingly. Du Bois says that the local edition of *Computer User*, a free-distribution newspaper, provides as many callers as guerilla marketing on the Internet; each channel attracts 17 per cent of paying members. Ten per cent of members learned about Two Babes On-Line from its mention in the book *Joy of Cybersex*; 12 per cent come from America Online; and five per cent found the board in *Qmodem Pro's* factory-default dialing directory. Du Bois and Baldwin know how to get the word out.

"Doing well by doing good" is another Two Babes principle. Documented veterans, disabled persons and AIDS sufferers get unlimited free access. Two Babes is having discussions with leaders of COYOTE (Cut Out Your Old Tired Ethics) about hosting a forum to proselytize the decriminalization of prostitution and disseminate information about the conditions and social role of prostitutes.

Two Babes On-Line is currently developing a turnkey adult merchandise catalog/order-entry system full of lingerie, sexual toys and CD-ROMs. Sysops will be able to "post it and forget it," as the DOOR.SYS-compatible application will collect orders and transmit them to Two Babes for fulfillment without sysop intervention. Merchandise will be shipped directly to customers, and the sysop will receive a 20 per cent commission on these high-profit items. The product should be ready by the time you read this article; we suggested the name "Deep Door."

Two Babes On-Line demonstrates the advantages of taking the high road in adult entertainment. "Different' is not always better, but `better' is *always* different; you can't be better by being the same." (author unremembered.) ◆

Washington, Two Babes On-line's home state, is the focus of considerable controversy involving a bit of morality legislation that would impose severe penalties on any type of information provider — not just online services — which makes a "unsuitable" material available to minors. The bill is dissected in considerable detail in this issue's "Cook Report" and "Government Access" columns. Du Bois opines that Washington's Governor Lowry is likely to veto this bill, as he did to a similar measure last year, despite pressures to do something to bolster his "moral image" with voters; Lowry has repeatedly sustained charges of verbal and physical sexual harassment. According to Du Bois, the word from the capitol is that Lowry does not want to be remembered as the Governor who "couldn't keep his pants zipped" *and* signed the death warrant of the state's online services industry — including Microsoft's efforts.

NEWSPAPERS ONLINE

by David Hakala

Electronic news delivery has always been an obviously Good Thing to people in the online community. Rather than crushing trees, smearing them with ink and tossing them into subscribers' bushes or mailboxes, why not deliver news electronically and almost instantaneously? Unfortunately, the people who actually publish newspapers have not, by and large, been members of the online community. They have rather stubbornly resisted moving into online media, for several reasons.

First is the look and feel of the traditional online medium. Publishers are accustomed to a variety of fonts, typefaces, headlines, photographs, charts and other visual adornments that go into a paper. Simply extracting the text and presenting it in ASCII characters on a BBS didn't *look* like a newspaper at all.

Second is the magnitude of the technology shift required to do an online newspaper concomitant with a print edition. We don't underestimate that problem here at *Boardwatch*; it's a daunting task to produce a first-class electronic edition with hot links, clickable graphics, etc., at the same time one is trying to set typefaces, proofread blue-lines and strike some sort of compromise between advertisement space and editorial content — and we do it just once a month. About 1,500 of the 10,000 or so newspapers in the U. S. have to meet a *daily* deadline; small wonder they haven't been too anxious to increase their burdens. Yes, newspapers are computerized; all the text and graphics get digitized on the way to the press. But the systems developed for newspaper publishing are highly specialized and — until recently — there has been no simple plug-n-play way to port the data to an online medium.

Smithsonian Institution Photo No. 77827

Revenue — as in how to earn it — is the third reason newspapers haven't embraced the online medium. Few online readers have been willing to pay much for plain-text news; they can buy hard copy for thirty cents on every street corner. Advertisers have looked askance from the sidelines, waiting for someone to show them hard readership numbers.

Most newspaper publishers feared the online medium as a potential threat to their existing advertising and subscription revenues. They hoped that if they ignored or pooh-poohed the online world, it would simply go away. Of course, that didn't happen — and that's *good* for newspapers! They need the online medium to revitalize their flagging fortunes.

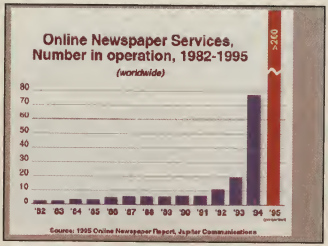
Traditional newspaper readership has dramatically declined in recent years. More than half of U. S. adults do not subscribe to any newspaper, and the majority of the 18-24 year-old crowd doesn't read newspapers at all. We've become multimedia junkies; our jaded senses barely react to black-and-white newsprint anymore. Some newspapers, like the *Denver Business Journal*, have turned to television in order to attract readers' attention. Ad-supported free-distribution shoppers' guides, neighborhood papers and other tiny mites have cumulatively sucked enough financial blood from traditional papers to cause a perceptible shakedown in the industry; it's a rare community that supports more than one daily newspaper these days.

The World Wide Web has changed a lot of perceptions among publishers. WWW makes it possible to put a publication online with headlines, fonts, graphics and all the trimmings, presenting what looks like a "professional" publication. Add some sound files and video clips, and a newspaper suddenly has an alternative to being a filler spot on the morning TV news hour or mere parakeet bedding.

That's just the tip of the iceberg that newspaper publishers see right now. As we proselytize below, online technology offers newspapers a golden opportunity to regain some of their prominence as the focus of community opinion, interaction and commerce. To do so, publishers will have to become more than pontificators and advertising media providers. They will have to become enter-

tainers, hosts, service providers and more. In short, publishers who want to prosper in the online community must be willing to be *sysops*.

Thanks in large part to the World Wide Web's ability to duplicate and enhance the look and feel of traditional publications, we are experiencing an explosion of online papers. (See Figure 1.) But some newspapers have been online for many years. A look at some of these early innovators — and some of the Luddites of the news industry — provides an understanding of why newspapers are found online in so many different places and formats.



THE EVOLUTION OF ONLINE NEWSPAPERS

A few newspapers saw opportunity as well as threat early in the online game, but they did not know how to exploit it. Some of them went for the mass market, while others tried to skim the cream. Gannett News Media launched *USA Today Decisionline* in 1988. Its condensed text-only version of *USA Today* became a popular drawing card on hundreds of BBSs nationwide, giving thousands of modem users dirt-cheap, inkfree news. Other national newspapers such as *The New York Times* and *The Wall Street Journal* put their text on $120-per-hour database services like Dialog Information Systems. Only the better-heeled public institutions and paid researchers could afford it.

These opposing tactics supported the same strategy: use online services to boost *print* circulation figures, the stuff of which advertising rates and revenues are made. *USA Today Decisionline* didn't give you the whole story at any price; you had to buy the paper to get it. The outrageous cost of full-text article delivery via Dialog strongly encouraged users to buy a print subscription and use the online service only as an index to back issues. The *Albuquerque Tribune's* Electronic Trib BBS still uses another tactic to boost print circulation: access to the BBS is free *if* you have an ever-changing password that is printed in the paper each day.

BBS-BASED NEWSPAPERS

Some of the oldest electronic newspapers started as bulletin board systems. *The Middlesex News* spawned its BBS, affectionately known as Fred the Computer, in 1987. The Ontario-based CompuSpec BBS, online edition of the *Hamilton Spectator*, was launched in 1986. The *Spokesman-Review/Spokane Chronicle's* S-R Minerva BBS appeared in 1982, as did the StarText BBS run by the *Fort Worth Star-Telegraph*. Back then, most newspaper readers thought "mo-dem" was a toddler's way of requesting seconds on the cookies. Today, all of these BBSs count their subscribers in the thousands.

BBS-based electronic newspapers constitute a species of online life that is more highly evolved than their text-database precursors. They are *communities* of living, thinking, ever-changing *people*, not just static alphanumeric datafiles. Yes, the datafiles are there for reading, but they are not the reason users call any more than the guacamole dip is the reason people come to a party (unless, perhaps, it's John Dvorak's guacamole dip). People *talk* to each other *through* the medium of a BBS *about* the content of the sponsoring newspaper — among other things.

The newspeople who created BBS communities are the kind who will win the readership war, because they clearly grasp their publications' reason for being. Every newspaper, paper or electronic, is a *community* — a bunch of people who communicate with each other, to coin a convenient definition. Writers (editors and reporters) talk to readers, giving the latter something to talk about. Story subjects — crime victims, businesses, sports teams — talk to readers in quotations. Readers talk to writers in the letters section, and to each other in the personal ads. Commercial advertisers talk to readers and hope readers will let their wallets talk back.

But very little of the communication that newspapers spawn involves the reporters and editors. Sales are never closed in the pages of newspapers; the majority of communication between buyers and sellers takes place outside of the newspaper. Many more people discuss the day's news at the office or at home than do so in the pages where they read it. Newspapers, which earn their daily bread by fostering communication, are cut out of most of it.

Newspapers can make more money by capturing more of the communication that presently leaks out of their publications to other forums. To do that, newspapers must provide the means for readers to discuss the news (and anything else) with each other. Newspapers must also provide end-to-end order fulfillment services for advertisers and buyers. Online services can provide the means to do these things.

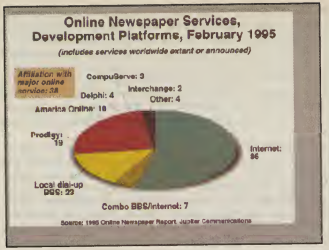
Newspeople don't just report, they *host*. They provide a theme, a medium, and stimulation so that ongoing communication between story subjects, readers and advertisers can flourish. To the extent that they throw a good party at which guests enjoy *each other*, newspapers attract subscriptions and advertising dollars.

Most editors and reporters don't want to hear that. They'd rather pontificate to a silent, worshipful audience than assume responsibility for keeping a party going. That's another reason for their antipathy towards online newspapers. But they cannot forestall a "redefinition" of their jobs; the definition already exists, implicit in the reality of what goes on in and around newspapers.

ONLINE PLATFORMS NEWSPAPERS USE

Figure 2 provides a snapshot of the development platforms that 158 daily newspapers are presently pursuing. Thirty-eight newspapers are on major online services (24% of the 158 papers in this sample). The rest are eschewing the high-rent malls in favor of standalone systems or relatively inexpensive space on BBSs and Internet host sites. Most of the startups in the last two years are bypassing the expensive major online services in favor of platforms that allow the papers to deliver news at prices that more customers are willing to pay. The Big Boards are experiencing considerable angst over this glitch in their marketing plans.

Direct-dial BBSs are used by thirty newspapers (about 19% of the total). A BBS is ideal for a local newspaper. It's cheap to



set up, supports all of the necessary communication and news presentation capabilities described above, and free local-call access neatly coincides with most newspapers' geographic markets. But in highly fragmented telco territories where a five-mile call may be "long distance," a BBS-based electronic newspaper may need tollfree access or several local-presence phone numbers in foreign calling areas.

Seven of the newspaper BBSs include some degree of Internet connectivity — telnet in/out, newsgroups, even UNIX shell or SLIP/PPP accounts. If you run a for-profit BBS, you have to sell Internet access to remain competitive. Newspeople are no different from other sysops in this respect. Despite any discomfort over stepping outside of their core business, newspapers that enter the online arena will inevitably become Internet Service Providers in addition to their duties as reporters and hosts.

Eighty-six newspapers are setting up shop on the Internet — a decisive 54% majority of the sample. Predictably, World Wide Web sites outnumber gopher and other text-based platforms five to one. The Webb's graphical and typesetting features allow newspeople to present their copy in a format that looks "right" to them, a prerequisite that kept many newspapers off-line for years. The early success of text-based BBS newspapers suggests that graphics and fancy fonts never really mattered to readers, but the debate is now moot. Newspeople have the look they want, so readers can have their news.

Concerns about the size of the Web-capable consumer market seem to have evaporated. Just a few months ago, pundits were warning all Internet infopreneurs not to count on the Web for millions of eager buyers because few end-users had the necessary hardware, software and connectivity services. Reports of massive hit-counts taken by virtually anything Webulized appear to contradict the experts, encouraging euphoric confidence among newspapers and other infopreneurs.

But the popular "hits per week" yardstick for measuring Web site activity can be grossly misleading, according to Barry Parr, product development manager for the *San Jose Mercury News'* Mercury Center Web site. A "hit" is a transfer of a file from a Web site to a user. Most Web pages transmit multiple files — text, thumbnail graphics and so on — and a user normally browses through several pages at a site. So the number of hits bears little relationship to the number of people who visit a Web site. The Mercury Center Web site reports that it averaged over 285,000 hits per day since it opened on January 18, 1995. But Parr claims "only" 10,000 daily visitors, based on the number of times users have downloaded Mercury Center's entire home page. That figure should be further discounted to allow for users who visit Mercury Center several times in a single day.

ALTERNATIVES TO WEB-ULITIS

The Web is not the only way to present photo-quality graphics and fancy typefaces. It may not even be the best way. Already, users are getting rather tired of the ubiquitous black-on-gray Times Roman presentation. The HTML language presents significant data conversion problems for newspapers, none of whom has much time available to deal with such things. Public bulletin boards are not readily implemented on the Web, and they are essential to the success of online newspapers.

Imagen, Inc.'s *REAL TIMES* software add-on uses standard RTF files to make any online system that supports Zmodem file transfers into a Web-like platform. See Jim Thompson's review of *REAL TIMES* in the "Technology Update" column of this issue. *REAL TIMES* works with virtually any BBS software platform, providing an alternative migration path for ANSI BBS-based newspapers to the wonderful world of full-color photos and online newspapers that look just like the printed edition.

CommunityNET Online is another alternative to the Web, one designed specifically for newspapers. Based on eSoft, Inc.'s *TBBS* BBS software and Telegrafix's *RIPscript* v2.0, this turnkey system was specified by the Pulse Inter@ctive subsidiary of Pulse Research, a firm with more than ten years of experience in publication research and consulting. John Marling, president of Pulse Inter@ctive, said, "*CommunityNET* emphatically answers the question most asked by publishers: `How can we make money on the information highway?'"

The programming was done by Mark Hayton of Telegrafix and *TBBS* master Alan Macnamee of Advanced Systems Research. Macnamee has extended TBBS in some amazing directions, adding several menu command types, the ability to convert Corel and other common types of files into RIPscrip graphics, and other arcane voodoo that makes CommunityNET Online a newsperson's BBS.

The result has newspaper publishers licking their chops. "...publishers who tested early releases of *CommunityNET* said this was the type of online system they would have designed for themselves," according to Marling. The product includes all hardware, software, and initial training starting at **$10,000** for a four-line Revenue Module system. This basic module includes a suite of features that we consider essential to the success of an online newspaper:

The Publication Online area is the fundamental moneymaker. Users can place a classified ad, order a subscription, get adver-

tising rates and specs, and access to reader demographic data that will help advertisers determine what readers plan to buy in the near future. Of course, they can also read the paper and ads. Searching by key words and browsing by topic are both supported. Photos can be included in a number of sysop-configurable ways: auto-display full-screen images, compile a collection of thumbnail images, click on a thumbnail to blow it up, etc. Community members can also submit press releases and communicate with the publisher, editor, sales people and other key personnel via e-mail.

The Speak Out section "is a local town hall in action." It includes live chat, public message forums, online polls and private e-mail. Newspeople, please note: you *need* these things to make it online!

CommunityNET Online is designed for newspeople on the back-end too. The system will take output from the paper's front-end processor, i. e., QuarkXpress, and format it for CommunityNET automatically. That means newspeople can just keep doing what they've always done, and the work required to duplicate the print edition on ComunityNET is minimized. It automatically converts files submitted by the community into formats the paper's publishing and billing systems can use, generates invoices, allow the staff to create and apply style sheets to copy on the fly or apply a default style sheet.

A *CommunityNET* system can connect a newspaper to local *and* global markets, the ideal position for local-news publishers. Local users will generally use dialup phone service to connect. The BBS can become telnet-able with the addition of eSoft's IPAD. The Personal Internet Mail Processor, a software option module developed by our own Jack Rickard, can bring Internet e-mail, newsgroups, ftp file servers, information servers, and other Internet features to a *CommunityNET* system.

Contact: Pulse Inter@ctive, P. O. Box 230693, Portland OR 97281; **(503)292-1146** voice; **(503)292-0144** fax; **e-mail://Marling@pulse-research.com**. Demo disk: **(800)574-7501** voice. Jim Thompson is exploring CommunityNET's user interface and back-end in depth, as he did with REAL TIMES this month. We expect his review in next month's issue of *Boardwatch*.

NEW CENTURY NETWORK: FOR LOCAL PAPERS ONLY

Local papers have an edge in their own backyards; they can readily capture their local markets by providing community-oriented online services, including but not limited to in-depth local news that the national papers ignore. But to compete on the global level, local papers need global news that the national papers do not provide. A moment's reflection yields a solution: let local papers worldwide share their local content with each other.

Eight of the largest newspaper companies in the U. S. announced on April 19 that they have formed a new company "to create a national network of local online newspaper services." The New Century Network is *only* for local papers; you won't find *The Wall Street Journal* or *USA Today* among NCN's affiliates. What you will find are 185 local papers owned by Advance Publications, Inc., Cox Newspapers, Inc., Gannett Co., Inc., The Hearst Corporation, Knight-Ridder, Inc., The Times Mirror Co., Tribune Company and The Washington Post Co. They have a collective Sunday circulation of 23 million copies. NCN will also be open to newspapers not owned by the eight founding companies.

NCN's mission is to "help local newspapers develop online services and to catalyze interaction and sharing (of content) among affiliated newspapers," according to interim CEO Peter Winter, also vice president of market development for Cox Newspapers. NCN plans to establish common standards for databases and search engines, authoring tools and billing/tracking systems so that local online newspapers can share advertisement and editorial databases.

Such a development could be a Good Thing for affiliated newspapers. A person shopping for a 1967 Ford Mustang, for example, is likely to turn first to the local classified ads. Not finding the right car there, the shopper may abandon the local paper in favor of national classic-car publications. But suppose instead that he/she could simply expand the search online to include the Ford Mustangs advertised in hundreds of local newspapers nationwide? The local paper's online service becomes a familiar, trusted gateway to an enormous market that the national newspapers cannot touch.

Out-of-town sales are presently a minuscule part of local newspapers' business. Few people buy out-of-town newspapers because they are expensive and long out of date before they arrive. All of that would change for NCN affiliates. Today's local news could be sold fresh as a daisy to anyone, anywhere. Given today's highly mobile workforce, demand for timely help-wanted ads alone would probably drive this aspect of NCN's business model.

Each affiliated newspaper could become a news retailer as well as a news publisher. Users might be able to purchase a single copy or a variable-term subscription to any of the affiliated newspapers through their local online affiliate. When national stories such as the Oklahoma City bombing break, one could reasonably expect temporary electronic subscriptions to the relevant local newspaper(s) to soar. That money would go to the paper that provides local coverage *and* to the papers that provide access to the home-town coverage.

The phrase "common standard" raises hackles everywhere, implying a deadly uniformity of presentation and format for all affiliated newspapers. NCN leaders are emphatic about their goal to provide only the minimum standardization necessary to support communication between affiliates and their subscribers. In other words, your online newspaper can look and act like anything you want it to be. But when your readers want to search my classified ads or my readers want to search yours, they will deeply appreciate a common search strategy, database format and user interface. When it's time for you and me to divvy up the money paid by the people who used our two systems, it will be helpful for us to use the same accounting system. That is as far as NCN's "common standard" intends to go.

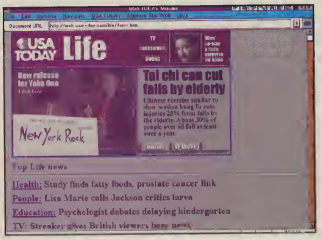
The NCN honchos clearly intend to end the confusion among their affiliated newspapers over which evolving online platform they should pursue. NCN's proposal to set standards puts the major online services (CompuServe, et. al.) in the unaccustomed position of conforming to their customers' way of doing business, rather than specifying how data must be formatted and presented on their services.

In an audio teleconference on April 19, Ms. Louise Kiel (sp) of the *Financial Times* asked if the NCN venture signaled a movement of newspapers off the major online services. "That is not an impression we would encourage you to form," replied Winter. Instead, he went on, CompuServe will have to conform to NCN's standards in order to carry NCN-affiliated newspapers. Bob Ingle of the San Jose Mercury Center Web site noted that NCN's standards would be 100% "Web-compliant," and that online services such as AT&T's Interchange and Ingle's own Mercury Center would have to make adjustments to their non-standard Web implementations in order to carry NCN affiliates.

WHAT THE BIG PAPERS ARE DOING

Most national and international news publications are struggling (in often comical fashion) to capitalize on their prestige and minimize the amount of reader interaction they have to do. Let's face it: running an online service for a community of a few thousand readers is less daunting than serving a worldwide audience of millions. Some major publishers are trying to get by with just pitching text and graphics at what they hope will be passive readers. It won't work, but it's funny to watch.

USA Today launched a new online service in mid-April, creatively dubbed *USA Today Online*. According to the press releases, it offers continually updated news, weather, sports, and editorial, plus a panoply of interactive services. Subscribers get access to the Internet and World Wide Web through a customized Mosaic browser; unlimited e-mail at no extra charge; and even a crossword puzzle with an offline reader/solver that corrects your spelling. Baseball fans may be interested in a **$49.95** optional software kit that provides a season-long package of weekly baseball statistical downloads and USA TODAY's Baseball Manager, a Windows program for managing Rotissierie and Fantasy Baseball Leagues. Do not bother downloading the Baseball Manager "update" file on the Sports page; it's just a patch file that is of no use without the earlier full-blown version.



The service opened for business on April 17. We found a bit less than the press releases promised when we logged on to it on April 26. No bulletin boards or searchable databases, just a basic button-clicking collection of Web pages and the downloadable crossword puzzle data file. We were able to send ourselves e-mail and hit our own homepage, but one doesn't need *USA Today* to do those things. Spokesperson Steve Anderson assured us that the other goodies would be coming along "soon;" apparently collecting subscription fees has been given a higher priority than keeping promises.

Actually, it nearly took until the 27th to get logged on; the client software locked up our PC three times, usurped Trumpet Winsock's place in our TCP/IP configuration, and some unregistered shareware program named WinECJ started flashing nagware screens. Anderson said the shareware is registered but the unregistered version slipped out the door in preview releases of the software. When we finally got connected to register, the host rejected our Master Card data three times for no apparent reason. Several redials later, we were on the homepage.

The comical thing about *USA Today Online* is that it's not on the World Wide Web, even though it provides access to the Web. The only way to get logged on is through dialup access provided by the CompuServe network, and that ain't the Internet. There's a non-published URL — **http://www.usatoday.com** — that is accessible via the Internet; Jack Rickard conjured it up with a shot in the dark. What cracked Jack and me up is the fact that this page doesn't *do* anything! Clicking on the graphics and highlighted words just bounced us back to the same page. We had to scroll the screen to the bottom of the page to find a little bitty note advising us to call **(800)872-4998** and ask for "operator # 106" or send e-mail to **help@usatoday.com** "for subscription information." I always thought "help" meant assistance, not a sales pitch. The e-mail address is not even "live;" clicking on it won't let you write a note and keep on cruising.

It's too funny — Gannett *could* have captured my credit card number and downloaded their broken software to me from this page, but they blew it. The geekiest, no-marketing-sense-at-all amateur wouldn't have missed this chance.

The basic price of *USA Today* Online is **$14.95** per month, which includes three hours. Additional time costs **$3.95** per hour, thanks to the CompuServe connect charges. We'll pass for now, being unwilling to pay to be guinea pigs.

Other major papers are teaming up with CompuServe, Prodigy, et. al. The *Los Angeles Times* has been on Prodigy since October, 1994, offering clickable maps to pull up neighborhood stories and chat sessions with reporters. Close to the mark, but encouraging interaction between readers would be better.

The Washington Post's Digital Ink service is waiting on AT&T to get Interchange up. (AT&T bought Interchange from Ziff-Davis a few months ago.) Digital Ink promises to "go beyond the traditional print newspaper" to include "calendars, games, contests, conversation groups and other interactive activities... It will include detailed neighborhood news... access to The Post's archives... as well as a connection to the Internet. Online advertising, both display and classified, will be included." Sounds good; let's see it!

The *Times of London* can be found on Delphi Internet Services (Custom Forum 171) and includes reader discussion forums as well as news summaries. What, no advertisements?

The *New York Times* is on multiple platforms, but you can't get the whole paper online anywhere. They don't even try to put daily editorial matter online. You can get an 8-page daily news summary and crossword puzzle on TimesFax, a Web site that delivers the document in Adobe Acrobat format (**http://nytimesfax.com/**). But the *Times* is also developing a employment database Web site on The Pipeline, a New York-based ISP (**http://www.pipeline.com**). A New York entertainment guide may be found on America Online, along with message boards where readers can communicate. There is also a searchable archive of current and past entertainment reviews. This approach is foolish; I wouldn't walk to several newsstands and pay several times just to get one partial copy of any newspaper.

Dow Jones & Company, Inc., publishers of *The Wall Street Journal*, will offer a newspaper-like format on Apple Computer's eWorld sometime this year. The Dow Jones area will include front-page news, stories on major corporations, market updates and analysis, up to 30 days' worth of archived news selectable by industry, company or topic; daily summaries of significant news of Technology, Asia, Europe and world events; and a potpourri of articles on topics ranging from personal technology to special international coverage. Note that no customer-interactive services are indicated.

WHO'S DOING IT RIGHT?

The *San Jose Mercury News* has been wildly successful with its *Mercury Center Web* site (**http://www.sjmercury.com**). It

includes a searchable version of the world's largest high-tech employment classifieds database, continually updated headlines and summaries of daily news, pointers to other local and world-wide Web sites, even the comics pages and Dave Barry — at the top of the main menu, where everyone knows they belong. Advertisers can place searchable catalogs and links to their own homepages on the Merc, as they should. The Merc recently found a way to scan display ads and convert them to searchable online versions; it's the first time we've seen this obviously necessary service provided to advertisers. The Merc just started charging for access to the full text of stories, the comics and Dave Barry, but the rest is free. The prices are right: **$4.95**/month or a token **$1.00**/month if you subscribe to the print edition. Still no community bulletin boards, though, and searchable archives of back issues are on the back burner.

The folks at *Time Inc.* have plenty of bulletin boards and archive databases on their *Pathfinder* Web site (**http://www.pathfinder.com**). You'll find more than just *Time Magazine* here; *Sports Illustrated, People Weekly, Southern Living, Entertainment Weekly* and *Money* magazines are a few of the publications available. The Time-Life Photo Gallery provides some stunning and speedily-viewed images. There are shoppers' catalogs, links to other sites and yes, by Prodigy, "It's got an encyclopedia!" (This one's for gardeners.)

But the best part of Pathfinder is the bulletin board system. Some online publications let you send e-mail to the editor, but Pathfinder lets users talk to each other. Rather than drop a note into a black hole and wait for some overworked editorial assistant to get back to you, you can palaver all you want with other visitors who share your passion for politics, gender relations or whatever. Messages are arranged in topic threads and fetchingly displayed in Web format. Pathfinder is how things oughta be in electronic news.

Overall, it appears that national papers will take a long time to evolve into fully interactive online communities. Look to the local papers for complete editorial content, community participation in newsgathering, interaction between readers and writers, and rational pricing.

THE FUTURE OF NEWSPAPERS, ON AND OFF-LINE

Chris Sherman of *Multimedia Wire* asked the NCN teleconference panel how printed newspapers would be affected by the addition of online editions. Winter opined that print editions would become "like TV guides... pointers to more in-depth content online." Ingle of the Mercury Center Web suggested that print editions would focus on issues of broad concern to each community, while narrow special interests would migrate to the online environment.

Newspapers will not disappear or even change very much during our lifetimes. Paper copy is convenient; there is no learning curve to turning pages. Reading words on paper is somehow psychologically different — more relaxing and comfortable — than reading the same words on a computer screen, no matter how closely the pixels resemble the ink spots. Perhaps computer screens subconsciously trigger our "work" reflex. And so far, there is no electronic newspaper that can pass the "4-B test" cited by Brian Jaffe, CompuServe's online publications manager: "Being able to take the electronic newspaper with you to the Bathroom, the Bedroom, the Bus and the Beach."

The online incarnations of newspapers will be BBSs, no matter what high-falutin' names their publishers give them and regardless of the hardware/software platform they run on. The survivors of the online-newspaper stampede will feature full-text search engines providing access to current and archive issues, but much more than this obvious application will be necessary to attract members to a newspaper's online community. The audience consists of *participants*, not passive readers.

Successful online newspapers will include public message forums and private e-mail; members will swap messages with each other about anything they wish, as well as communicating with publishers, editors and reporters about the news. Winning papers will invite — nay, *solicit* — readers' contributions to local news pages. Advertisers will have direct access to reader demographics and purchasing plans, and will be able to submit ad copy online. Eventually, online newspapers will provide end-to-end ad response and order-fulfillment services, reaping additional profits by more fully participating in the communication between buyers and sellers.

Local newspapers will become local Internet Service Providers. They will offer shell and SLIP/PPP accounts to individuals and perhaps to business users. Online newspapers will provide USENET and other newsgroups to complement (not "compete" with) their own published words. Of course, online newspapers will become gateways to the World Wide Web. They may very well become gateways to each other as well; the New Century Network vision makes eminent sense.

The losers in this evolutionary struggle will be publishers who cling to their pedestals. The online audience will not be content to just read whatever publishers want to dish up. Readers will demand the right to talk back and to talk to each other. The power of the press — to widely disseminate information — will be reclaimed by the masses. Advertisers will take their business where they can get the electronic services that they *know* are possible. Like it or not, newspaper publishers, editors, reporters and all other employees will become — sysops!! ◆

LIST OF NEWSPAPERS ONLINE

This month's list is a departure from our usual BBS-only format. Newspapers are *everywhere* online: BBSs, gophers, Web pages, and commercial services such as CompuServe, et. al. Each listing includes the URL (Uniform Resource Locator) of the online edition. We adapted the URL format to accomodate non-Internet online addresses, i. e., **bbs://505-823-7700** indicates a standard dialup bulletin board system.

Two dedicated people provided much of the data that went into this list. Our grateful acknowledgments go to:

Steve Outing, who in conjunction with Jupiter Communications provided the charts and graphs used in this piece, as well as many of the addresses in the list of online newspapers found at the end of this article. He maintains a growing Web site at **http://marketplace.com/e-papers.list.www/e-papers.home.page.html**, where you will find nearly 200 online addresses of newspapers, statistics and charts, directories of consultants catering to the online news industry, free sources of news, relevant job openings, and a sample of Jupiter Communications' *1995 Online Newspaper Report*, a **$995** market analysis written principally by Steve. If you want to stay on top of what newspapers are doing online, stay in touch with Steve: **e-mail://outing@netcom.com**; voice **(510)236-2119**; snailmail to Planetary News, Inc., 5667 Jordan Ave., El Cerrito CA 94530.

Eric Meyer is another editor's angel. His Newslink Association is a nonprofit research center tracking the burgeoning news-online scene, including broadcast networks and their affiliates, magazines, journals and publishers, and specialized sites of journalistic interest. Newslink's Web site at **http://www.newslink.org/newslink/index.html** carries over 690 links to other online news sources as of April 26. If you have or know of any online news sources that should be included on Newslink, contact Eric Meyer: **e-mail ://meyer@newslink.org** or snailmail to Newslink Association, N22-W26969 Knollwood Rd., Pewaukee WI 53072.

U.S. NEWSPAPERS:

Air Force Times/Army Times/Marine Corps Ed.	(Virginia, USA)	AOL://MCO
Albuquerque Tribune	The Electronic Trib	bbs://505-823-7700
American Employment Weekly	(Indiana, USA)	http://branch.com/aew/aew.html
Arizona Daily Star	(Tucson, Arizona, USA)	http://www.azstarnet.com
Arizona Republic	Phoenix, Arizona, USA)	http://www.primenet.com/~hontzd/allstar.html
Arizona Republic/Phoenix Gazette	Home Buying Choices	bbs://602-440-4663
Aspen Times	(Colorado, USA)	http://www.aspenonline.com/clients/aspenonline/directory/times/timesindex.html
Athens Messenger	(Ohio, USA)	gopher://seorf.ohiou.edu:2001/11/seorf.stuff/Med
Athens News	(Ohio, USA)	gopher://seorf.ohiou.edu:2001/11/seorf.stuff/Med
Atlanta Journal-Constitution	(Georgia, USA)	http://www.mindspring.com/ajc/ajchome.html
Atlanta Journal-Constitution	(Georgia, USA)	Prodigy://ACCESS ATLANTA
Augusta Chronicle	(Georgia, USA)	http://www.cris.com/~masters
Austin American-Statesman	(Texas, USA)	Prodigy://DMN
Austin Chronicle	(Texas, USA)	http://www.auschron.com
Birmingham Post-Herald	Post-Herald Online	bbs:// 205-664-9883 (on Magic City BBS)
Bismarck Tribune	North Dakota Online	bbs://701-255-2579
Booth Newspapers	(Michigan, USA)	http://www.cic.net/~glew
Capital Gazette	(Annapolis, Maryland, USA)	http://www.infi.net/capital/
Casco Bay Weekly	(Portland, Maine, USA)	http://w3.maine.com/cbw/
Casper Star Tribune	(Wyoming, USA)	http://www.trib.com/trib_home.html
Charleston Post & Courier	Post & Courier Online	bbs:// 803-937-5559
Charlotte Observer	Observer Online	bbs:// 704-358-5072
Chicago Tribune	(Illinois, USA)	http://www.chicago.tribune.com
Chicago Tribune	(Illinois, USA)	AOL://TRIB
Chronicle of Higher Education	(USA)	gopher://chronicle.merit.edu
Cincinnati Post	Post Electronic Edition	bbs:// 203-792-6397

Colorado Springs Gazette-Telegraph	(Colorado, USA)	http://usa.net/gazette/today/Gazette.html
The Columbian	(Vancouver, Washington, USA)	http://www.columbian.com:80/columbian/
Columbus Dispatch	(Ohio, USA)	gopher://gizmo.freenet.columbus.oh.us:70/11/news-weather-calendar/dispatch
Commerce Business Daily	(USA)	http://cos.gdb.org/repos/cbd/cbd-intro.html
The Courier-Journal	(Louisville, Kentucky, USA)	http://iglou.com/gizweb
Dallas Morning News	(Texas, USA)	http://www.pic.net/tdmn/tdmn.html
Daytona Beach News-Journal	News-Journal Center	bbs:// 904-947-6397
Destination Florida	(Florida, USA)	AOL://FLORIDA
Detroit Free Press	(Michigan, USA)	gopher://gopher.det-freepress.com:9002
Detroit Free Press	(Michigan, USA)	CIS://GO DETFORUM
The Dispatch/The Rock Island Argus	Quad-Cities Online	bbs:// 309-757-7514
Edmond Evening Sun	(Oklahoma, USA)	http://www.icon.net/sun/index.html
Evansville Courier	(Indiana, USA)	http://www.evansville.net/
Evansville Courier	Courier Online	bbs:// 812-424-1099
Family World	(Delaware, USA)	http://family.com
Florida Today	(Cocoa Beach FL, USA	CIS://GO FLATODAY
Fort Worth Star-Telegram	StarText	bbs:// 817-878-9800
Gainesville Sun	(Florida, USA)	http://news.jou.ufl.edu
Gainesville Sun	Sun.ONE	bbs:// 904-846-2000
Gannett Suburban Newspapers	(New York, USA)	CIS://GO NEWYORK
Grand Traverse Business News	(Michigan, USA)	http://www.traverse.com/a&m/biznews.html
Halifax Herald	The Halifax Herald Limited	bbs:// 902-426-6397
Hamilton Spectator	CompuSpec	bbs:// 416-522-3422
Hartford Courant	(Connecticut, USA)	http://www.atlantic.com/ctguide/news/courant/
High Country News	(Paonia, Colorado, USA)	http://www.aspenonline.com/dir/news.html
Hollis Brookline Journal	(New Hampshire, USA)	http://www.jlc.net/HBJ/Home.html
Houston Chronicle	(Texas, USA)	http://www.chron.com
Investor's Business Daily	(Los Angeles, California, USA)	http://ibd.ensemble.com
Investor's Business Daily	(Los Angeles, California, USA)	AOL://IBD
Journal Newspapers	(Virginia/Maryland, USA)	http://www.infi.net/journal
Knoxville News-Sentinel	(Tennessee, USA)	http://www.scripps.com/knoxnews/
Lake Tahoe News	(California, USA)	http://cybermart.com/bonanza/LTNN.html
Lansing State Journal	LSJ-Access	bbs:// 517-377-1253
Livonia and Redford Observers	(Michigan, USA)	http://oeonline.com/
Los Angeles Times	(California, USA)	Prodigy://LA1
Maine Antiques Digest	(Maine, USA)	http://gray.maine.com/mad/
Marietta Times	(Ohio, USA)	gopher://seorf.ohiou.edu:2001/11/seorf.stuff/Med
The Met	(Dallas, Texas, USA)	http://www.onramp.net:80/TheMet/
Metro Newspapers	owns 9 newspapers	bbs:// 408-298-8646
Miami Herald	(Florida, USA)	http://herald.kri.com/
Middlesex News	(Massachusetts, USA)	gopher://ftp.std.com/11/periodicals/Middlesex-News
Middlesex News	Fred the Computer	bbs:// 508-872-8461
Milford Cabinet	(New Hampshire, USA)	http://www.jlc.net/Cabinet/Home.html
Newsday/New York Newsday	(New York, USA)	Prodigy://NDNY
Mississippi Business Journal	(USA)	http://www.inst.com/mbj/
Naples Daily News	Daily News Online	bbs:// 516-454-6959
Nashville Business Journal	(Tennessee, USA)	http://www.infi.net/nc5/nbj
New York Times, TimesFax	(USA)	http://nytimesfax.com/
New York Times, Arts & Leisure	(USA)	AOL://TIMES
News & Record	(Greensboro, N.Carolina)	http://www.infi.net/nr/triad.html
Newtown Bee	(Connecticut, USA)	http://www.connix.com/thebee
Norfolk Virginian-Pilot	(Virginia, USA)	http://www.infi.net/pilot/vpls.html
North Tahoe/Truckee Week	(California, USA)	http://www.sierra.net/nttw/nttw.html
Orlando Sentinel	(Florida, USA)	AOL://FLORIDA
OutNOW!	(San Jose, California, USA)	http://www.zoom.com/outnow/
Palo Alto Weekly	(California, USA)	http://www.service.com/PAW/home.html

PC Week	(California, USA)	http://www.ziff.com/~pcweek
Pittston Gazette	(Pennsylvania, USA)	http://www.microserve.net/microserve/pitgaz/index.html
Poughkeepsie Journal	Poughkeepsie Journal BBS	bbs:// 914-437-4936
Providence Journal & Bulletin	(Rhode Island, USA)	Prodigy://RIH
Providence Business News	(Rhode Island, USA)	http://www.pbn.com/
Public News, Houston's Alternative Newsweekly	Cyberlink	bbs:// 713-524-3609
Raleigh News & Observer	(N. Carolina, USA)	http://www.nando.net
Raleigh News & Observer	NandO.Net	bbs:// 919-829-3560
Roanoke Times & World News	(Virginia, USA)	http://www.infi.net/roatimes/index.html
Salt Lake Tribune	Utah Online	bbs:// 801-237-2069
San Diego Daily Transcript	(California, USA)	http://www.sddt.com/
San Francisco Chronicle	(California, USA)	http://sfgate.com/
San Francisco Examiner	(California, USA)	http://cyber.sfgate.com:80/examiner/
San Jose Mercury News	(California, USA)	http://www.sjmercury.com/
San Jose Mercury News	(California, USA)	AOL://MERCURY
San Mateo Times	(California, USA)	http://www.baynet.com/smtimes/home.html
St. Paul Pioneer Press	(Minnesota, USA)	http://www.skypoint.com/pioneerpress/
St. Petersburg Times	(Florida, USA)	http://times.st-pete.fl.us
Seattle Times	Seattle Times Extra	bbs:// 206-624-7000
Shepherd Express	(Milwaukee, Wisconsin, USA)	http://www.shepherd-express.com/
Southern Maine Coastal Beacon	(Saco, Maine, USA)	http://www.mbeacon.com
Spokesman-Review/Spokane Chronicle	S-R Minerva	bbs:// 509-459-5233
Springfield Newspapers	The Spa	bbs:// 413-563-4365
Syracuse Newspapers	(New York, USA)	http://dataserver.syr.edu:8080/HTTPB/syronline.html
Tacoma News Tribune	(Washington, USA)	http://www.tribnet.com
Tampa Tribune	(Florida, USA)	Prodigy://TBO
Times Newspaper Group	(San Jose, California, USA)	http://www.ipac.net/tng/tnghome.html
USA Today	(Virginia, USA)	http://alpha.acast.nova.edu/usatoday.html
Vacaville Reporter	(California, USA)	http://community.net/community/solano/reporter/reporter.html
Vail Daily News	(Colorado, USA)	http://www.csn.net/real/VailDailyNewsNet.html
The Village Voice	(New York, USA)	gopher://gopher.enews.com:70/11/magazines/alphabetic/all/village
Wall Street Journal/DowVision	(New York, USA)	http://dowvision.wais.net/
Washington Free Press	(Seattle, Washington, USA)	http://www.cyberspace.com/~mrobesch/wfp.html

CANADA

BuzzON	(Prince Edward Island)	http://www.isn.net/buzzon/index.html
Daily News	(Halifax, Nova Scotia)	http://www.cfn.cs.dal.ca/GreenPages/DailyNews.html
The Globe and Mail	(Toronto, Ontario, Canada)	http://www.globeandmail.ca/
Halifax Daily News	(Nova Scotia, Canada)	http://www.cfn.cs.dal.ca/Media/TodaysNews/TodaysNews.html
Halifax Herald	(Nova Scotia,Canada)	http://www.herald.ns.ca
Kamloops Daily News	(British Columbia, Canada)	http://www.netshop.bc.ca/dailynews/daily_news.html
North Shore News	(Vancouver, British Columbia)	http://nsnews.com/News
Ottawa Citizen	(Ontario, Canada)	http://freenet.carleton.ca/freeport/newspaper/citizen/menu
Winnipeg Free Press	(Manitoba, Canada)	http://www.freepress.mb.ca/freepress

EUROPE

Aftonbladet	(Stockholm, Sweden)	http://www.aftonbladet.se/aftonbladet/start.html
Aftenposten	(Oslo, Norway)	http://www.oslonett.no/home/bent
Avui	(Barcelona, Spain)	http://avui.scsinet.upc.es/
Bronnoysunds Avis	(Bronnoysund, Norway)	http://nic.nordnett.no/~ba/
Dagbladet	(Oslo, Norway)	http://www.telepost.no/dagbl@det.no/Welcome.html
Datateknik	(Sweden)	http://www.et.se/datateknik
Der Spiegel	(Germany)	http://nda.net/bda/int/spiegel/index.html
Der Standard	(Vienna, Austria)	http://www.derstandard.co.at/DerStandard/
Drammens Tidende - Buskeruds Blad	(Drammen, Norway)	http://www.drammensnett.no/dtbb/

Eindhovens Dagblad	(The Netherlands)	http://dse.iaehv.nl/kiosk/ed/
Financieel-Ekonomische TIJD	(Belgium)	http://www.tijd.be/tijd/
Gazeta Wyborcza	(Poland)	http://info.fuw.edu.pl/gw/0/gazeta.html
Gazeta w Krakowie	(Krakow, Poland)	gopher://gopher.cyf-kr.edu.pl/11/info_krakow/gazeta
Kommunal Rapport	(Oslo, Norway)	http://www.kr.kommorg.no/english.html
Komputery i Biuro	(Krakow, Poland)	gopher://gopher.cyf-kr.edu.pl/11/info_krakow/gazeta_k
The Guardian	(London, England)	http://www.gold.net/online/
Il Giorno	(Milano, Italy)	http://vol.vol.it:80/~ruggiero/GIORNO/
Il Manifesto	(Rome, Italy)	http://www.mir.it/
Irish Times	(Dublin, Ireland)	http://www.ieunet.ie/ois/irishtimes/index.shtml
Jewish Chronicle	(London, England)	delphi://Custom Forum 171
Liverpool Daily Post	(Liverpool, England)	Tel-Me Network (UK only)
L'Unione Sarda	(Italy)	http://www.crs4.it/~ruggiero/unione.html
l'Unita	(Rome, Italy)	http://www.mclink.it/unita/index.html
Morgunbladid	(Reykjavik, Iceland)	http://WWW.strengur.is/cgi-bin/mbldemo?today
Municipal Reporter	(Oslo, Norway)	http://WWW.KR.kommorg.no
Nieuws Servers Overzicht	(Netherlands)	http://cbil.humgen.upenn.edu/~marcovth/nieuws/nieuws.html
St. Petersburg Press	(Russia)	http://www.spb.su/sppress/
Tages-Anzeiger	(Zurich, Switzerland)	http://www.marktplatz.ch/tages-anzeiger
The Telegraph	(London, England)	http://www.telegraph.co.uk/
The Times of London	(London, England)	delphi://Custom Forum 171
The Times Higher Education Supplement	(Essex, England)	http://www.timeshigher.newsint.co.uk/

ASIA

China Business Journal	(China)	http://silkroute.com/silkroute/news/cbj/cbj.html
Commersant	(Russia)	http://www.seanet.com/Bazar/ElectronicNews/Commersant.html
The Hindu	(Madras, India)	http://www.webpage.com/hindu
Kyodo News	(Japan)	http://www.toppan.co.jp/kyodo/

AFRICA

The Weekly Mail & Guardian	(Johannesburg, South Africa)	http://www.is.co.za/services/wmail/wmail.html

LATIN/SOUTH AMERICA

Agencia Estado	(Brasil)	http://worldnews.net/
Caretas	(Lima, Peru)	http://www.rcp.net.pe/CARETAS/
El Economista	(Mexico City, Mexico)	http://condor.dgsca.unam.mx:2500/el_economista/econo.html
El Nacional	(Mexico City, Mexio)	gopher://condor.dgsca.unam.mx/11/noticia_mex_mundo/nacional
El Norte	(Monterrey, Mexico)	http://www.infosel.com.mx
Excelsior	(Mexico City, Mexico)	http://worldnews.net/
Hoy	(Quito, Ecuador)	http://ecnet.ec/hoy/hoy.htm
Diario de Monterrey	(Monterrey, Mexico)	http://www.pixel.com.mx/diariomty/index.htmlll
Jornal do Brasil	(Rio de Janeiro, Brazil)	http://www.ibase.br/~jb/
La Jornada	(Mexico City, Mexico)	http://sccs.swarthmore.edu/~justin/jornada
La Nacion	(San Jose, Costa Rica)	http://www.nacion.co.cr/
Listin Diario	(Dominican Republic)	http://www.nando.net/prof/caribe/caribe.com.html
(binary image files)	(Mexican newspapers)	ftp://condor.dgsca.unam.mx/pub/imagen/noticia/periodicos
Reforma	(Mexico City, Mexico)	http://www.infosel.com.mx

AUSTRALIA/NEW ZEALAND

The Age	(Melbourne, Australia)	http://www.vicnet.net.au/vicnet/theage.htm
Sydney Morning Herald	(Australia)	http://www.smh.com.au/index.html
Weekend Independent	(Brisbane, Australia)	http://www.uq.oz.au/jrn/twi/twi.html

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In addition, Metropolitan Fiber Systems (MFS) operates a network access point titled MAE-EAST in **Washington D.C.,** and in fact, operates a second titled MAE-EAST+.

The pricing is chaotic, but not really irrational. Pacific Bell charges about **$662** per month for a T1 port at San Francisco on a month to month basis, **$4850** per month for a 45 Mbps T3 connection, and **$7899** monthly for a full 155 Mbps ATM link. You also have to pay for the line from YOUR point of presence to the actual site in San Francisco. There are installation charges roughly equivalent to one month's connection charge. And there are fairly extensive discounts for one-year, three-year, and five-year contracts.

Ameritech, in Chicago, charges **$5200** per month for a 45 Mbps T3 connection, and **$7800** per month for a 155 Mbps ATM connection. Sprint lists port charges for both T1 and T3 in New York, a.k.a. Pennsylvania, both at **$2050** per month. MFS in Washington DC uses FDDI rather than ATM, and they offer a T1 connection at **$1680** per month, a T3 at **$4080**, and 100 Mbps FDDI at **$8400**.

So broadly, you can gain access to a NAP with a leased line to it, at whatever price you can get that, and a port charge of about **$8000** monthly for the top speed, **$4500** or so a month for a T3, and T1 links are from **$700-$2000** and not terribly relevant at this point.

The establishment of NAPS seems to fly in the face of the distributed goal originally of a self-healing network. So we blow up San Francisco, Chicago, Washington DC, and whatever part of New York we can find in Pennsylvania, and there is no Internet, right?

Not exactly. In recent years, most Internet Service Providers have had strong impetus to build their OWN backbones. ANS retains the ANS Network, which was always analogous to the NSFNet backbone, much to the suspicion of many. Sprint and MCI both have national networks. IBM has a GlobalNet that links about 20,000 businesses now. Netcom has a network linking some 68 cities. PSI has its own network. The NAPS actually are Interconnect points between backbones. Anyone from Joe Stroup/Karl Denninger's Net99 to MCI and Sprint can interconnect at a NAP and thus form "The Internet."

So what WAS the NSFNet backbone actually IS still connected to a NAP. And notably, giants such as Sprint and MCI are actually connected to ALL the NAPs. Even tiny Net99 in Chicago is connected both at Ameritech's NAP in their own back yard, AND to MAE-EAST in Washington D.C. So there is a wealth of backbones, all privately owned and operated without government funds, and they interconnect at the designated Network Access Points. Sufficient port charges are levied to maintain an equipment room where each network can stand a router and physically make a link.

A glance at those already making the connection to the Chicago NAP as an example:

ANS
MCI
Sprint
AGIS
AlphaNet
Argonne National Laboratory
B3
Databank
Fermi National Lab
ISI/Merit
Netcom
Network99
University of Chicago
University of Illinois

There have also been "inquiries" from IBM Global Network, CompuServe, AT&T, and a dozen smaller fry. Further information on the NAP architecture and the transition from NSFNet to NAP is available from **`http://nic.merit.edu/routing.arbiter/NSFNET/NSF.transition.html`**.

That leaves again the concept of settlements. This is such a touchy subject that literally no one wants to touch it. And in establishing the NAPs, everyone was very particular NOT to include settlement charges. You can connect, but there is no guarantee that those likewise connecting won't levy a "settlement" charge demanding payment to handle your traffic to or from their network.

In reality, we're back to the two brilliant negotiators in suits. Settlements can only be an issue if some single provider becomes so dominant they can raise the issue. With MCI and Sprint both in the game, CompuServe, IBM GlobalNet, now Prodigy, now AT&T, now Pacific Bell, and more jumping in, two things become apparent. One is that anyone who even speaks the "S" word either destroys the Internet or causes themselves to be banished from it forever. There is enough gold in them thar hills at this point that we think banishment will be everyone else's only alternative.

The second devil hobgoblin among Internauts is usage-sensitive pricing. It is no secret that all telephone companies want a penny-per-pixel style pricing rather than flat-rate pipe-size pricing. There is even an enormous, expensive, and much quoted study that has been floating around Washington for years explaining why we MUST HAVE usage sensitive pricing instead of the current Internet model. But again, it is almost entirely wishful thinking. The existing Internet Service Providers all use flat-rate for pipes to the Internet. At the end-user delivery point, we are generally seeing a per-hour price for the little pipes - 28.8kbps SLIP and PPP accounts. But you can pump all you want through it as fast as your pipe size will allow and the basic price emerging is **$1** an hour or below for global connectivity at those data speeds.

So however much Sprint and MCI and AT&T would WANT such pricing, the model of flat-rate is already established. Who will be first to forfeit essentially ALL of their customers to the remaining providers? One strategy that might work would be to provide FREE Internet connections, but with measured usage. The usage rate would have to be very low - say you were offered a FREE Internet T1 connection, but at $1 for each 100 MB of traffic. Many would jump on this. In the future, as we all grow to 155 Mbps links and use it up with enormous bandwidth eaters like full motion HDTV video etc., it would pay off. But it is a very long way around the horn, and I doubt it will even be attempted in the current near hysteria to be the dominant ISP.

USE OF THE NET

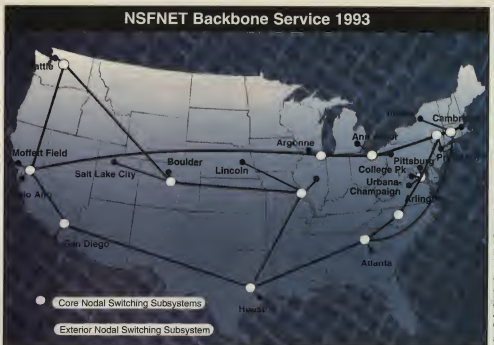
One aspect of the Internet lost with the NSFNet backbone was some historical statistics maintained by Merit. They have been tracking NSFNet backbone traffic from the beginning. Recall last October we did a fairly detailed portrayal of World Wide Web traffic increase on the backbone from its inception up until October 1994 - with an 1800% increase over the span of a year. That was done from Merit data available at their site. But with the advent of the NAP architecture, backbone traffic is meaningless - we have dozens or hundreds of backbones - all tied to these connectivity rings in a few cities.

The last Merit report we found was for March of 1995. It was a bit interesting in that Web traffic had essentially reached that of the file transfer protocol - making Web the biggest user of the Internet. This was by packet count. We find the byte count figures more persuasive, and Web was still second, but not by much.

File Transfer Protocol (FTP)	**4,898,203,038,300 bytes**	**24.20%**
World Wide Web (http)	**4,833,271,270,950 bytes**	**23.88%**
USENET News (nntp)	**1,683,707,014,200 bytes**	**8.32%**
E-Mail (smtp)	**1,000,861,707,300 bytes**	**4.96%**
Telnet	**586,006,936,550 bytes**	**2.94%**
Gopher	**496,925,911,550 bytes**	**2.46%**
Domain Name Service	**453,140,710,200 bytes**	**2.24%**
Internet Relay Chat	**26,463,745,500 bytes**	**1.31%**

You can retrieve the more detailed raw data from **`gopher://nic.merit.edu:7043/00/nsfnet/statistics/1995/nsf9503-ports`**.

This data is indicative of the changing use of the network. However, as noted earlier the percentage of Internet traffic that transits



the now defunct NSFNet backbone is approaching trivial. Further, note that the growth in web traffic is almost entirely due to the use of Mosaic and Mosaic-like World Wide Web browsers. Note that you can not only connect to Hyper Text Transfer Protocol (HTTP) sites at the conventional port 80 measured by Merit, but also to ftp sites, gopher sites, telnet sites, etc., using the increasingly facile software - Netscape's browser a good example. It even includes USENET retrieval.

HOW MANY PEOPLE ARE ON THE NET?

This is one of our most asked questions. The answer is I don't know. But I'm not in poor company. No one else does either and the oft cited 30 million is essentially certifiably bogus. The question begs a question - what does "on the net" mean?

The ability to send and receive electronic mail via the Internet might be one criteria. The 30 million number might be about right by this definition since it includes all callers to some 32,000 Fidonet systems, tens of thousands of other bulletin boards with UUCP dialup connections, essentially all commercial services now, as well as the native Internet IP population.

But most people think of "on the Internet" as having an IP connection to the Internet, with a SLIP or PPP connection as a basic level of IP connectivity - but sufficient to allow World Wide Web access, ftp, and telnet. There are roughly a little over 4 million computers connected to the Internet and those interested in promoting the network apply a multiplier of 7 to 10 to that number assuming there are at least 10 people per computer, which seems rational given that some individual computers have tens of thousands of users.

Looking into our own equipment room, we note about a dozen computers with NOBODY using them ever at all that are connected to the Internet and included in those numbers. So we like a multiplier of ONE as generous and indeed gratuitous. But Prodigy, for example, has added over 500,000 SLIP accounts in the past 90 days among its members. And in April, CompuServe, AT&T, Pacific Bell, IBM GlobalNet, The Well, and virtually everyone else announced they too were offering Internet SLIP/PPP accounts - all at around a buck an hour.

We would GUESS there are 6 million now, with an additional 6 million coming onboard by the end of the year - representing essentially the rest of the commercial online service membership. Largely, it doesn't matter. If you want to say 30 million, it will only be a sin for another year or so.

The best keeper of the numbers we know is John Quarterman of Texas Internet Consulting (`tic@tic.com`). He attempts a methodology where others guess in vain and we would defer to his work in most cases. He was the author of the very first useful book on the Internet we ever encountered, ***The Matrix: Computer Networks and Conferencing Systems Worldwide.*** He also has a current book out written with his partner in Texas Internet Consulting, Smoot Carl-Mitchell titled ***Practical Internetworking with TCP/IP and UNIX*** that we again find quite useful.

Quarterman divides the world of Internet users into three main groups: the core Internet, the Consumer Internet, and The Matrix. The core Internet consists of those on computers that can be servers for ftp, telnet, WWW etc. The Consumer Internet would consist of the core group, plus all of those who can access World Wide Web, ftp, telnet, etc. by some form of dialup SLIP/PPP account, a UNIX shell account, or a commercial service offering such connectivity. And the Matrix includes all of those who can send an e-mail message to anyone on the Internet. This would include UUCP connections, Fidonet, commercial mail services, etc.

He sports the current estimates:

Core Internet:	**7.8 million**
Consumer Internet:	**13.5 million**
The Matrix:	**27.5 million**

He also writes a monthly newsletter titled ***The Matrix*** and they have a World Wide Web page with more information at **http://www.tic.com**. We would count this as the most credible source that actually attempts some methodology in deriving numbers of users on the Internet.

THE FUTURE OF THE NETWORK

The future of the Internet is inevitably more Internet. But there are some problems, and some enormous opportunities. Architecturally, the domain name system is about to crash and burn. The Internic is getting behind in processing registrations. And we don't have a second way of doing it. One of the keys to the current Internet architecture is this domain name system and someone has to stand in the middle and allow as how who you say you are is who you say you are and that everyone can reach you there.

A related problem is IP address space. There is a limit to the number of addresses that can be assigned. IP addresses come in three flavors, Class A, Class B, and Class C. This is actually a bit technical and correlates to different ways of using 32-bit numeric addresses. Class C addresses, for example, allow you to individually address 256 machines (actually a couple of addresses are reserved but basically 256 + or - a couple). Class B addresses allow many more, a little over 16,000 machines per network. But there are correspondingly fewer Class B networks 16000 or so and over half are gone already. Internic virtually won't assign a Class B at this point and Class C addresses are currently going fast. There are only 128 available Class A addresses and they allow millions of individual machines, but they are reserved for enormous networks.

We are not actually out of any of them. But at the current assignment rates, we will be shortly. And worse, we are losing confidence that we can fix it. The Internet has been based on this addressing scheme for some time. All of the software in all of the routers and gateway computers on the network works that way. If we wanted to change it, how do we ensure that everyone can deal with a 64-bit scheme? The diversity and growth of the Internet that is its strength, makes a solution to this one a problem.

In any event, the future of the network reaches in a lot of different directions. Most have to do with delivery. And there is some stunning news regarding this. Everyone is selling it, and everyone can access it. It happened in April 1995, and basically we invented a new telephone network of a most stunning nature.

At Internet World, held in San Jose this past April 10-13th, it happened. I watched it. And was left clueless and panicked, which allowed me to mingle with everyone else there on a more or less equal and convivial basis. It was nearly unnoticed, but nonetheless dumbfounding, to me at least.

First, I noted CompuServe prominently on the vendor floor TWICE. They had recently acquired Spry, and they had a CompuServe/Spry booth AND a Spry/CompuServe booth. What they were showing in BOTH booths was a Spry Mosaic connection to CompuServe. And in answer to my question, yes, if you dial CompuServe, you are now connecting via Point to Point Protocol and can access the World Wide Web. CompuServe is selling PPP connections and at about a buck an hour (25 hours for **$24.95**)

I then met with Bruce Katz, the owner of THE WELL, and Mark Graham, recently of Pandora Systems but now the general manager of THE WELL. They wanted to talk about their plans. Their plans basically centered on selling SLIP/PPP accounts in 80 cities in partnership with UUNET.

Microsoft also made quite a splash on the vendor floor. They are terrifying all commercial services with the prospect of their Microsoft Network - largely because the access software will be built into Windows95 and some 25 million Windows users are expected to upgrade before the end of the year - a mouseclick away from connection to the Microsoft Network. Actually, a Web browser will come with Windows95 and it is starting to look for all intents and purposes as if you can get all the Internet connectivity you want through Microsoft Network.

I then went to a joint Prodigy/IBM press conference. They actually made it sound dry and boring anyway, but it was historic. First, there were banners all over the room that said IBM - THE INTERNET COMPANY. I didn't know IBM WAS the Internet Company. Did any of you know that? Yes, IBM is the Internet Company. Probably was all along. We just didn't know it, which all works out as apparently they didn't either previously.

Prodigy announced some really astounding news to me personally. First, they are going to the Internet full pedal. By the end of the year, the Prodigy mainframes will essentially be unplugged forever. They will operate from 270 RISC machines located across the country. The Prodigy service will actually be a huge and distributed World Wide Web page. And they will be selling what looks and acts like SLIP/PPP accounts for **$30** for 30 hours with additional hours at **$2.95**.

Then IBM got up and made their own announcement. IBM GlobalNet, which currently connects about 20,000 businesses, intends to offer SLIP/PPP accounts to individuals, starting with OS/2 Warp users which they are already connecting, at about **$30** for 30 hours per month.

During the remainder of the show, I also heard vaguely that MCI and Sprint were both going to offer SLIP/PPP accounts, Ameritech was going to do the same, Pacific Bell was going into the business, AT&T was as well, and so many vendors were touting themselves as the LEADING Internet Services Provider that I almost made a career out of searching around for who was the NUMBER TWO Internet Service Provider. Never did find them. UUNET and PSI are BOTH currently doing Initial Public Offerings - after watching Netcom successfully complete theirs in December.

And basically that's it. EVERYONE on the planet is now officially an Internet Service Provider, and the list price - or at least the initial asking price— for Internet service is a buck an hour. Great.

DIGIPHONE

Recall our article on VocalTec's Internet Phone. Well, a smallish Dallas company is about to roll out a product titled DIGIPHONE. It is voice phone but doesn't use Internet Relay Chat sites. You maintain your own telephone directory. But it does do point to point voice telephone, it has a voice mailbox, an e-mail mailbox, and you can do conference calls.

I ALSO saw Alex Hopmann of Resnova walking around with a laptop with a video camera the size of a MOUSE hooked up to the serial port. He claimed it was black and white only, but was less than a hundred bucks.

DO YOU GET IT?

1964. The World's Fair. Video phones. It's here. I'm thinking the telephone companies didn't ever actually get us videophones. And in fact, they've been struggling for the last ten years on how to deploy an expanded touch tone keyboard with about three additional keys. They just can't figure out how to get it off the ground.

By the end of this year, the features of telephones will all be in software. You want video phones? It's kind of a CUSEEME/InternetPhone patch that isn't even difficult. ANY desirable phone feature can be coded by a 14 year old in his bedroom, distributed as shareware, and you install it by clicking on SETUP.EXE. And we can talk to each other, and anyone on the planet, AT A BUCK AN HOUR!!! Voice, data, fax, video - what do you want? Call me. I've got it waiting for you. A video message. I'm out. I'm never coming back. Leave a message. Text/voice/video/whatever. OK. So the stuff is a little kludgy and jerky at this point. If people on the net like this stuff, it will be improved by several orders of magnitude as a function of time.

Where does this leave long distance telephone companies? They want **$9** per hour to call 100 miles away. Let's see. A buck anywhere in the world. Or nine bucks. Of course, if I'm a business and have a T1 already, I don't even pay the buck. Will this catch on? I guess only time will tell.

WE REINVENTED THE TELEPHONE COMPANY

Naturally enough. We didn't all like the one we had. So now we have a new one. With flat-rate long distance, first predicted in these pages in 1988.

What do the real telephone companies do now? Well, they still string the leased lines. Most of them will be Internet Service Providers if you can believe it. And they will do a landmark business in a new kind of connection - ISDN. Actually ISDN isn't so new. It was proposed in the late seventies, and for us now, it can provide 115 kpbs SLIP/PPP links to the home - using existing copper in the ground. By the end of the year, it will be THE big item for local RBOC around the country. Long distance service will linger to provide the poor and the stupid the **$9** per hour long distance service they deserve, while the technologically elite get the same thing at **$1** an hour (a little strange don't you think?) But eventually, one of the LD players will cave and offer some kind of **$75** per month calling plan for flat-rate long distance and it will be over. The ultimate irony is they will make more money doing it, and the RBOC will make more money doing ISDN, than they could have otherwise. The endgame is of course where they have a conference or something where they can declare themselves geniuses for having thought of it all.

AND WHAT OF BANDWIDTH?

The sage among you will be saying, "Ah, but what of bandwidth." The Internet is already slow and cranky in places because of the incredible demand placed upon it. This will surely bring it crashing to the ground.

Not actually. There are a number of reasons why. Recall that we claim that the Internet is made up of people extending the Internet 7 miles at a time. It is. And each time they extend the length of it, they also extend and distribute it's capacity. This works at ALL layers of the Internet. We just said that Sprint, MCI, AT&T, IBM, Prodigy, CompuServe, Ameritech, Pacific Bell etc. have CURRENT plans to offer connections. With each comes additional backbone capacity. MCI and Sprint backbones are already at the 155 Mbps level and going to over 500 Mbps "real soon now". The bandwidth problem comes into play ultimately at the two end points. The end user at the bottom of the tree, and the technological limits imposed at the top of the tree where the backbones interconnect.

AT THE TOP

Currently, the limit of fiber backbones for voice calls is about 32,000 conversations on a single strand. But this limit is imposed by the repeaters that occur every 25 miles or so. An optical detector responds to light pulses coming down the pipe, and converts this to

an electrical signal. This electrical signal is used to modulate a laser light source "restoring" or amplifying the signal. This is the bandwidth choke. It's already been solved. Bellcore has developed an entirely optical switch several years ago that can amplify light directly - without electronics at all. The increase in bandwidth is several orders of magnitude. You could almost carry ALL conversations in this country on a SINGLE fiber strand with this type of optical switching. It is terribly exciting.

And that is the future. Packet switches at increasing speeds are necessary. The optical switch technology could perform it. And it all has a strong economic basis in demand. Having those pieces doesn't make it done, but it does make the outcome very predictable.

AT THE BOTTOM

Immediately, we have ISDN. The World Wide Web is barely excusable at 28.8 kbps. You CAN do voice phone over such a link. But it is the equivalent of 300 baud modems in many ways. ISDN offers an immediate leap to 115 kbps. We recently had two ISDN lines installed. And we had a couple of Adtrans ISU 128 ISDN adapters, which looked and acted remarkably like modems, to play with. We found that establishing a link between our two ISDN lines, whereby the modems bound the two 64 kbps B channels of ISDN into a single 115 kbps connection, was so simple we didn't have much fun with it. So on a lark we dialed Kevin Behrens' Aquila BBS system in Chicago, where he had an Adtrans connected to a SLIP/PPP port. It was no more difficult to accomplish than dialing the number. So we dialed Achem Germany to a BBS there that had 64 kbps ISDN. We only got a 56 kbps link internationally in this way, by dialing the number, with never a lost character, never a missed beat, and a total call setup time of a few seconds. ISDN is VERY interesting in the short term.

And we are vaguely aware of several modem manufacturers that plan the simple addition of V.42 data compression to reach a theoretical maximum data rate of 512 kbps - a third of a T1 to the home. Typical pricing for ISDN should be about $25 per month.

Can you do video over ISDN? There is video, and then there is video. The short answer is yes. But it isn't home delivery of movie video or HDTV that you want.

Two promising areas are cable television, and if you can believe it, our AC power network. Cable TV can deliver 10 Mbps - ethernet speeds—to the home now. But getting a back channel of any speed requires some additional switch capability. Many cable systems are fiber now. But even the old RG-58 coax systems could conceivably do this trick. If they see all these phone companies and online services offer Internet connections and don't issue a response, I would be terribly surprised.

And the AC power companies. Believe it or not there are some experiments to do data over the power bus, and some others to make glass connections to the home anyway. Apparently, to manage power, the power companies have glass all over the place anyway. They don't have it to your house - but they do very close by along all their major power distribution networks. They use this for communications and power management across the grid, and they used glass because it wasn't garbled by massive magnetic and electrostatic fields generated by power wires. They have access to your home now. They could connect you easily. And there are some interesting experiments going on. They were actually borne of power management issues again. The mantra in public utilities revolves around smart meters and smart houses where the power company can shut off your air conditioner during the day, and run it more at night when they also give you cheaper electricity rates. The economics revolve around managing average and peak loads better to avoid building costly new generating equipment. In any event, it's a long shot, but with telephone deregulation, they could conceivably become a player.

AND OF DESTINATIONS

If all of this sounds more like an infrastructure than an online service, there's a reason for that. That's precisely how I view it. The Internet is a different kind of telephone company. A telephone company that grew up from the grass roots, driven because the existing telephone company was not responsive to the communications needs of our population. Over the next few years, we will see an intense tool-building phase culminating with - the almost total disappearance of the Internet. Today we dial online services with modems and we struggle with the modems, the software, and the online services. But the standard analog voice telephone service in between is just there. It limits everything, but we don't "logon" to it. It's an almost invisible infrastructure. And as TCP/IP migrates into the operating systems such as OS/2, Windows NT, and Windows 95, and as the struggle to get a pipe to the Internet becomes no more difficult than connecting our PC to the cable TV socket or an ISDN line, the Internet as an infrastructure will pass from our immediate view. It will be bigger, better, faster, but less visible as a thing unto itself.

What we will be left with is global universal e-mail, and thousands of online services we can access. Yes, Microsoft Network will probably be one of them, and so will Prodigy. But it will also consist of thousands and thousands of "web sites."

The problem with the current web sites is that they look a lot like publications - documents. In this issue, we describe how we put Boardwatch online - and even the current raw tools allow this to a remarkable degree. But people don't want to read documents online. They never did. Knight-Ridder drilled a fortune into the ground in the early '80's with the concept of producing pretty screens, having their lawyers bless them, and selling them to the modem-equipped. It didn't work. Prodigy very nearly did the same thing before reversing field and going into a dramatic "community building" phase that has turned them from a loser into a leader. And the web is going to go the same way. Web sites need local discussion areas, user access control, probably file areas, and so forth to ultimately be successful online services. Indeed, web sites look like bulletin boards to me now, and I would predict they will become MORE so as we go into the future.

This is no great act of prophecy. Online users want to develop communities and argue a lot online. They also love free software. They don't read publications a lot but with the better interface, they might read them a little bit. But after the initial rush of clicking about on the web is over, they will most likely want to DO what they always wanted to do.

The most intense interest in running web servers is coming from some names that sure sound familiar. They've been running bulletin boards. And while they want the additional graphic interface and connectivity of the current World Wide Web, it is unlikely they will quit wanting what they've had with direct dialup BBS systems. So I see web sites as bulletin boards under another name, with a prettier face. There will be lots of them. They won't all be free. And it should spur a boom in entrepreneurial activity that will make the entire history of the online community during the past eight years of Boardwatch publishing look quaint. It's going to be a fun ride.

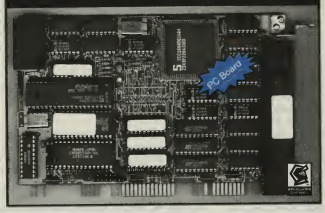
So the Internet infrastructure will be increasingly taken for granted, and the destinations we go to will behave much like commercial online services and bulletin boards do today. But the bandwidth is higher and the presentation much prettier and easier for newbies to use. It's an evolution of what has always been.

SUMMARY

So there is one fat kid's view. The Internet isn't old. It's been around about 7 years and is really just getting started as of last year with the availability of Mosaic web browsers. And it isn't an online service at all and never was. It's an infrastructure - a common electronic backbone for online services. The vast bulk of it is made up of YOUR link to connect to it, in aggregate. There is a hierarchical tree that culminates at the top with a LOT of private backbones, all interconnected in four cities currently. It was built by a lot of visionaries using a "Field of Dreams" concept of "If We Build It - They Will Come". And today it is a belief system, "If You Believe There Is An Internet - There Is One." If you don't, there are 200 of them - all useless. I believe....

Jack Rickard
Editor Rotundus ◆

SmartCard - 8



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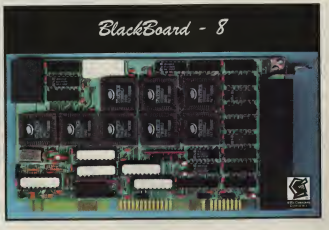

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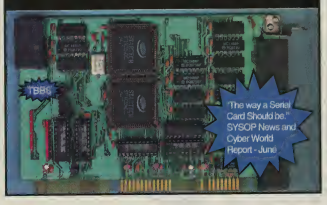

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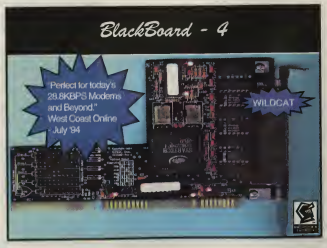
BlackBoard - 4



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Chat between doors	Yes	No	No	Yes	No
Bidirectional file transfers	Yes	Yes	Yes	No	No
DOS door support	11 types	2 types	2 types	No	No
FILE_ID.DIZ support	Yes	Extra	Yes	Yes	No
Offline NetMail	Yes	Yes	Extra	No	Yes
Offline/Remote file requests	Yes	No	No	No	No
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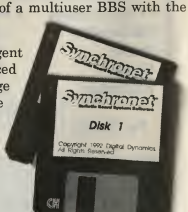

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Fax: 801-261-8987 **Email:** sales@saltair.com

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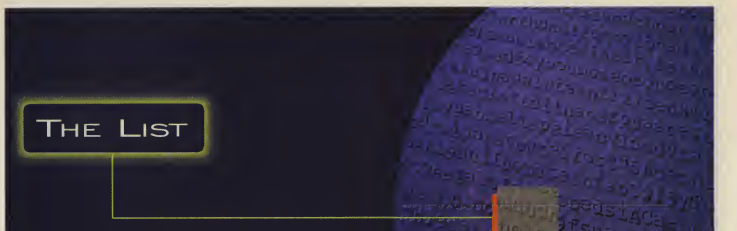
List of BBS List Keepers

This listing comprises a list of those who compile and maintain lists of bulletin boards, either by topical category, or by some geographic area or definition - often by area code. The primary bulletin board system where the list can be downloaded electronically is also included.

BBSLIST TOPIC	AUTHOR/EDITOR	CONTACT BBS	TELEPHONE
New Jersey BBS's	Scott Drake	T.E.R.N. BBS	(201)399-4772
Connecticut AC 203	Kevin Brook	Creative Edge BBS	(203)743-4044
BBS With Handicapped Focus	Bill McGarry	Handicap News BBS	(203)926-6168
Manitoba Canada AC 204	Victor Laking	Generic BBS	(204)475-5199
West Washington AC 206	Bob Dinse/Nanook	Eskimo North	(206)367-3837
Tacoma Washington AC 206	Richard Langsford	AmoCat BBS	(206)566-1155
Puget Sound Area AC 206	Art Tomlin	Orion Station	(206)675-0565
Kitsap County Washington	Michael Schuyler	Quicksilver BBS	(206)780-2011
Modesto CA AC 209	Chris Mitchell, "Gomba"	Anything Goes	(209)491-0782
Stockton AC 209	Monty A Gonzales	Stockton BBS List	(209)943-1880
San Antonio TX AC 210	Donna Murrell	Main Complex BBS	(210)658-8009
Graphical User Interface BBS	David Shapiro	The Gooey (GUI) BBS	(212)876-5885
96 List - 9600+bps BBS	Ken Sukimoto	Downtown BBS	(213)484-0260
Employment BBS's	George Smith	Executive Connection	(214)306-3393
Dallas/Ft.Worth BBS List	Mark Elson/Mike Shockley	Blues Cafe	(214)638-1181
Open Access UNIX Site List	Phil Eschallier	LGNP1 (login:BBS)	(215)348-9727
Cleveland Area 216	Jim Barry	Flip Flop	(216)951-9134
Educational and Indiana BBS	Joe McIntosh	KSI Public BBS	(219)626-2150
Conservation/Nature BBS List	D.Wendling/JS Christianso	Coin of the Realm	(301)585-6697
Ham/Amateur Radio BBS	Stan Staten	3WINKs BBS	(301)590-9629
Handicapped Issues BBS	Richard Barth	HEX BBS	(301)593-7357
Desktop Publishing BBS	Frank Atlee	Infinite Perspective	(301)924-0398
Delaware AC 302	Vince Boehm/Dave Osburn	Talk Radio BBS	(302)429-7667
Colorado AC 303/719	Willis Morrow	Big Boy's BBS	(303)458-3832
Cave Exploration BBSs	Douglas L. Moore II	The CatEye BBS	(304)592-3390
South Florida Area 305/407	Eric Thav	Silicon Beach BBS	(305)474-6512
Southern California	Mike Hefferman	SOCAL Corner	(310)422-7942
California AC 310	Jim Walton	Illusions BBS	(310)804-3324
Detroit AC 313	Tom McEachern	Wonderland BBS	(313)274-3531
Detroit Area 313	Horst Mann	Tony's Corner	(313)754-1131
St. Louis AC 314	Beth Brooks	Fire Escape's Dir	(314)741-9505
ASP BBS Member List	Richard Holler	The RoadHouse BBS	(317)784-2147
Engineering Related BBS	Arthur Petrzelka	Computer Plumber	(319)337-6723
Rhode Island Area 401	Mike Labbe	Eagle's Nest	(401)732-5292
Alberta AC 403	Stephen Decarie	T-8000	(403)246-4487
Calgary Alberta AC 403	Jeremy Birkett	The Quantum BBS	(403)252-5119
Atlanta Area 404	Online Atlanta Society	OASIS	(404)627-2662
Oklahoma City AC 405	John Burton	The SandBox	(405)737-9540
Montana Area	Jay Michalik	Valley Light BBS	(406)273-6399
Searchlight BBS Systems	Chad Payne	Montana MediaNet	(406)549-6325
Orlando BBS List AC 407	Lenny Lacuy	Infinite Space Onlin	(407)856-0021
San Francisco Bay Area	Mark Shapiro	BABBA BBS	(408)946-8592
Baltimore BBS Area 410	David Fogle	Silver Streak BBS	(410)254-3400
Pittsburgh AC 412	Chas Stokes	Zuul's Catacombs	(412)264-9787
National BBS List	DP McIntire/Beth Spotts	Ameriboard	(412)349-6862
Milwaukee AC 414	Mark G.	The Castle	(414)327-5085
North America Nudist List	Patrick O'Brien	Natural Connection	(414)426-2110
Toledo Ohio Area 419/313	Ryck Zarick	Toledo's TBBS	(419)475-2241
Arkansas Area 501	Bob Underdown	The Blue & The Grey	(501)444-8420
Louisville KY South IN	Tim Arnold	Dance of Shiva BBS	(502)893-6360
Portland Oregon BBS	Lisa Gronke	DawGone Disgusted	(503)297-9145
New Orleans AC 504	Darin Celino	Southern Belle BBS	(504)455-9488
New Mexico AC 505	Dan Kiehl	MDC Computers BBS	(505)434-0258
Apogee/ID/Software Crtns List	Dan Linton	Software Creations	(508)368-7139

BBSLIST TOPIC	AUTHOR/EDITOR	CONTACT BBS	TELEPHONE
PCBoards on Internet	Ruben Meio	ponyXpress BBS	(508)587-7669
Worcester MA AC 508	Charles Grosvenor	Information Society	(508)832-7542
Corpus Christi	James Cordasi	Treasure Island	(512)241-8358
Austin Area AC 512	John Foster	Camel's Back BBS	(512)243-0077
Selected BBS	Joseph Caplinger & Son	J&J's BBS	(513)236-1229
Free Shareware AC 516	Harold Stein	Long Island Exchange	(516)271-5303
516 AC, 800 numbers, Freenets	Wilton Virgo	Long Island BBS	(516)338-8595
Area Code 517 - Mid-Michigan	Rick Rosinski/SAMM	Wolverine BBS	(517)695-9952
518 AC	Dave Hitt	Electric Avenue	(518)899-3292
Phoenix AC 602	Sue Widemark	Cheese Whiz BBS	(602)279-0793
Cochise County Arizona	Kevin McCrory	The Commo Shack BBS	(602)452-0587
Arizona and Southwest U.S.	Michael	BBSouthWest	(602)820-7861
New Hampshire	Mike Maggi	Marlos Birdhouse	(603)226-0467
Victoria/Vancouver AC 604	Mark Morley	Island Net	(604)477-5163
Kentucky AC 606	Jon Hagee	Kentucky Explorer	(606)271-1451
Wisconsin 608	Jim Wargula	JW-PC Dataflex HST	(608)837-1923
New Jersey AC 609	Dave Schubert	The Casino BBS	(609)485-2380
Real Estate Boards	Ted Krais	Dealmakers Online	(609)587-4651
New Jersey Area 201/609/908	Wayne R. Morton	Praedo BBS	(609)953-0769
Medical Issues BBS	Edward Del Grosso	Black Bag	(610)454-7396
Job Search and Inet hot list	Ward Christman	Online Opportunities	(610)873-7170
Minnesota Twin Cities AC 612	Barry Watson	Abiogenetic BBS	(612)774-8454
Apple II BBS	Mike Shecket	Way Out	(614)436-4846
Tennessee AC 615/901	unknown	SPDA Info Service	(615)952-5638
Business/Professional BBS	Dennis Hauser	Delight The Customer	(616)662-0393
Female Sysops	Brenda Donovan	The Pacific Rim	(619)278-7361
San Diego, CA AC 619	Tom Grigg	ComputorEdge	(619)573-1675
San Diego AC 619	Joe Nicholson	General Alarm	(619)669-0385
Apple II BBS with Internet con	Morgan Davis	pro-sol	(619)670-5379
Virginia AC 703/804	Eddie Gebhard	PC Power House	(703)348-1423
OS/2 BBS Systems	Pete Norloff	OS2/Shareware BBS	(703)385-4325
Geneology Related BBS	Richard A. Pence	NGS-CIG	(703)528-2612
Charlotte, NC AC 704	Blaine Schmidt	Moobasi Optics, Ink	(704)541-9842
Indigenous People BBSs	Arthur McGee	BDPA BAC BBS	(707)552-3314
Black Run/Oriented BBS	Arthur "Rambo" McGee	BDPA BAC BBS	(707)552-3314
Chicago	Peter Anvin	Royal Swedish Viking	(708)491-9036
Gay & Lesbian BBS List	Billy Kennedy	Risqlly BBS	(708)495-6609
Airline Pilot/JUMPSEAT BBSs	Rex Chadwell	ChicAAgo Hangar	(708)980-1613
Houston Area 713	David E. Wachenschwanz	Atomic Cafe BBS	(713)530-8875
Korean BBS	Wayne Jeong	Korea America Online	(714)449-9373
Area Code 715	Corey Koltz	YES It's another BBS	(715)345-7132
Rochester NY AC 716	Tracy Logan	Logan's Run	(716)328-2914
RIP BBS Listing	Mario Mueller	Antarctica BBS	(717)755-2440
717 AC BBS Listing	Adam Viener	Cyberia	(717)840-1444
Vermont BBS's	Russ Boyce	Computer Ser. of Ver	(802)334-7976
Ecology/Conservation BBS	Bob Chapman	EarthArt BBS	(803)552-4389
Central California AC 805	Larry Honore	His Board	(805)652-1478
Wildcat! BBS	Jim Harrer	Wildcat! HQ	(805)873-2400
Oahu Hawaii	Brent Davis	Land's End BBS	(808)499-2527
Detroit AC 810	Donald Quarles	Bad To The Bone	(810)749-3581
Technical Support BBS List	Gary Barr	Digicom BBS	(812)479-1310
Pinellas/Tampa Florida AC 813	Emery Mandel	Mercury Opus	(813)321-0734
Kansas City Area 816/913	Bob Zumbrunnen	PC-HELP BBS	(816)331-4703
Dallas Fort Worth	Mark Robbins	Second Sanctum	(817)467-1175
Denton, TX AC 817	Walter Bowen	Mezzanine BBS	(817)565-9165
Occult BBS	Phil Hansford	Mysteria	(818)353-8891
Commodore 64/128/Amiga BBS	John Rigali	Night Gallery	(818)448-8529
Texarkana BBS List	Rodney Payne	Internet Connection	(903)793-7173
Internet accessible BBS's	Richard S. Mark	Dragon Keep	(904)374-3500
Durham Region-Ontario Canada	Chuck Cirvec	Odyssey Systems	(905)579-9241
Alaska AC 907	Patti Johnson	Alaska Pirate Soc.	(907)248-9364
Travel Related BBSs	Robert Southwick	AK Information Cache	(907)373-3205
Kansas 913 Area Code BBS's	Chuck Baslock	On-Line Connection	(913)587-0241
Sacramento AC 916	Jackie Kuhwarth	24 Street Exchange	(916)448-2483
Darwin National US BBS List	Bob Breedlove	Bob's BBS	(916)929-7511
OS/2 Related BBS	Dave Fisher	LiveNet 1:170/110	(918)481-5715
Tulsa Oklahoma Area BBS List	Linda Hargraves	ACCESS AMERICA	(918)747-2542
Raleigh NC AC 919	Mike Stroud	Micro Message Svc.	(919)779-6674
National ISDN BBS list	Ken Morrison	Digital Velocity BBS	(919)992-3059
Republic of South Africa	Henk Wolsink	Catalyst BBS	27-41-51-3406
Switzerland BBS List	Cesar Keller	The Warehouse BBS	41-1-492-5157



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MicroSellar BBS (201)239-0001 Verona, New Jersey since 03/83. Sysop: Mark Rapp. Using PCBoard 15.21 with 20 lines on MS-DOS with 10000 MB storage. US Robotics at 28800 bps. No fee. PCBoard 15.x alpha site. NJ's preferred BBS for the pro 11 yrs running. Hispeed lines. Local #'s available for easy access. Best-quality latest files games info gold mine. Many mail networks including Internet. Trial access provided. Major credit cards.

Synergy Online (201)331-1797 Parsippany, New Jersey since 07/93. Sysop: Jim Boxmeyer. Using PCBoard 15.1 with 30 lines on MS-DOS 80486 with 15000 MB storage. Cardinal at 38400 bps. No fee. 20,000+ recent shareware files. 4,000+ conferences. Internet, Usenet, RIME, UNI-net, Intelec and other networks online. Huge adult areas with over 10,000 GIFs. Daily weather, newspapers, magazines online. 30 Public lines available.

Central Core BBS (201)575-8991 Montville, New Jersey since 01/85. Sysop: Mike Cocke. Using PCBoard 15.2 with 3 lines on MS-DOS with 7500 MB storage. ZyXel at 19200 bps. No fee. No fee for basic services, small fee for enhanced. A BBS for grownups of all ages. Free Internet trial access. Member ILink & BASNet echomail networks. Online national weather reports. Scrabble & trivia tournaments. Many technical interest files. No porn

The Spirit of Play (201)854-2728 North Bergen, New Jersey since 03/95. Sysop: Frank Silvestro. Using MajorBBS 6.2 with 8 lines on MS-DOS with 2000 MB storage. US Robotics at 14400 bps. $10 Monthly fee. Nothing but the spirit of play. Multi-player games including Doom, Doom II, Warpath, Spectre VR, Heretic and more. Full Internet access, Worldlink, Chatlink and files. Come play with the world.

BEACON STUDIOS BBS (201)863-5253 Union City, New Jersey since 01/93. Sysop: Conrad Scott. Using MajorBBS 6.21 with 23 lines on MS-DOS with 15090 MB storage. Supra at 14400 bps. $.50 Hourly fee. Free downloads for new users with 60 min. allowed daily. Over 70,000 files on 14 CD's. New Jersey's only WorldLink and ChatLink BBS linked every night. Internet e-mail, newsgroups, MajorNet, FidoNet and games.

Jezebel's Parlour BBS (201)927-2932 Flanders, New Jersey since 04/92. Sysop: Beverly Delisa. Using TBBS 2.2 with 12 lines on MS-DOS with 3720 MB storage. US Robotics at 19200 bps. $50 Annual fee. Over 7 gigabytes of files, including adult graphics. New In-house scanned GIF files added each week. Online games and databases, user to user chat, conference areas, and adult matchmaking. The BBS with the feminine touch.

The Starship][BBS (201)935-1485 Rutherford, New Jersey since 07/80. Sysop: Philip J. Buonomo. Using TBBS 2.3 with 32 lines on MS-DOS with 10000 MB storage. V.32bis at 14400 bps. No fee. Operating for 15+ years, Starship is one of the oldest & most successful bbs systems ever. Free public access, adult, non-adult topics, chat, files & games, full Internet access, it's the home of multi-BBS Global Chat Live. telnet:starship.com to access.

ABSOLUTE BLISS (202)234-0750 Washington, DC since 03/95. Sysop: Pussy Willow. Using MajorBBS 6.25 with 20 lines on MS-DOS with 4000 MB storage. AT&T Paradyne at 14400 bps. $.60 Hourly fee. Washington DC's hot, irreverant, in your face, all-adult, online system. Not a good place for cardiac patients or southern Baptists! Come online and get rowdy with the thousands of users who know how to make Bliss happen. MC/VISA

The Big Dog's BBS (202)635-1755 Washington, DC since 01/95. Sysop: Rod Pinnick. Using MajorBBS 6.25 with 8 lines on MS-DOS with 2000 MB storage. BOCA at 19200 bps. No fee. Adult files and chat. Multi-player games like 4-way DOOM and Heretic. Internet email and usenet newsgroups at no extra charge. Online games like Tradewars, High Rollers, prize giveaways. International chatlink nightly. No surcharges. Check us out.

Models On-Line (203)529-2703 Wethersfield, Connecticut since 11/94. Sysop: Joe Leone. Using WildCat 4.01 with 1 line on MS-DOS with 750 MB storage. US Robotics at 14400 bps. No fee. Online model photo-database. View hundreds of photos of Connecticut models and models from other parts of the country. Graphic terminal program required to view photos which can be downloaded free on the board. 30 minutes day, 24 hours day.

T-Shirts Online (205)880-6309 Huntsville, Alabama since 06/94. Sysop: Mike DeVaudreuil. Using PCBoard 15.1 with 1 line on MS-DOS with 540 MB storage. US Robotics at 14400 bps. No fee. Upload your favorite graphic file and we'll custom print it on a hight quality t-shirt and mail it to you. High resolution, full color. No minimum quantity. If you can see it on a computer screen, we can print it on a t-shirt.

Barter America BBS (206)770-2364 Puyallup, Washington since 02/91. Sysop: Douglas Jones. Using MajorBBS 6.25 with 20 lines on MS-DOS with 500 MB storage. Hayes at 14400 bps. $25 Monthly fee. Telnet access 192.207.47.72 We have Chatlink plus netaccess newsgroups and mail We also have FTP, telnet, e-mail,newsgroups. We accept Visa and Master Cards. One can also write a check online. Try our dial-out module, sample the BBS'S we have got config

CyberMaine (207)998-5710 Poland Spring, Maine since 01/95. Sysop: David Wight. Using Excalibur .82 with 2 lines on WINDOWS with 3500 MB storage. US Robotics at 28800 bps. $25 Annual fee. 100% GUI, multitasking download while playing games. or reading messages. GIF thumbnails and previews. Online GUI games, online GUI mag, online art gallery. Internet e-mail and newsgroups. Awesome graphics. Call today and experience CyberMaine.

ACE InfoSystems (209)833-0291 Tracy, California since 08/94. Sysop: Don Mankin. Using MajorBBS 6.25 with 24 lines on MS-DOS with 1700 MB storage. US Robotics at 14400 bps. $60 Annual fee. Fifteen multi-player games including Cybertank, Mutants, Swords & Sorcery, Trade Wars, TeleArena, Game Connection w/4 player DOOM. Also, shopping mall, FAX services, 18 CD's, Internet FTP & Telnet. Telnet to 199.190.76.2 or aceinfo.com VISA/MC.

Exxxtacy Adult BBS (209)062-4045 Pine Mt. Lake, California since 06/86. Sysop: Victoria Cummings. Using MajorBBS 6.12 with 4 lines on MS-DOS with 10000 MB storage. US Robotics at 14400 bps. $25 Annual fee. Large hi-rez adult file collection with thousands of erotic files. New member bonus - adult burlesque video tape of our California coeds with each membership. Also feature chat, online games, and more. Visa and Mastercard accepted online.

The Invention Factory BBS (212)274-8110 New York City, New York since 03/84. Sysop: Michael Sussell. Using PCBoard 15.1 with 48 lines on MS-DOS with 99999 MB storage. US Robotics at 28800 bps. $15 Monthly fee. New York's best BBS. Free downloads for new users. More than 14 gig of shareware and freeware. Internet, Usenet, e-mail. Large adult files area. MC Visa Amex.

NY WEBB, Inc. (212)647-9660 New York City. New York since 08/94. Sysop: Garrett W. Griggs. Using MajorBBS 6.2 with 256 lines on UNIX with 13000 MB storage. Microcom at 57600 bps. $10.00 Monthly fee. We are a BBS with an Internet On-Ramp providing Full T1 access. We have Telnet, FTP, WWW TIA and Lynx Web Browsers. We have forums for Music, Paranormal, Healthcare, Under 21, a Shopping Mall and Self Publishing area. http://www.webb.com WEB site is Open

Midnight Driver Super Data Highway (212)750-3643 New York City, New York since 07/93. Sysop: Dave Lew. Using PCBoard 15.21 with 4 lines on MS-DOS with 5000 MB storage. Hayes at 28800 bps. $59.95 Annual fee. Free Internet mail and Usenet news. Over 1100 Usenet newsgroups and increasing every day. 2 CD-ROMs with tons of shareware. Lots of games including the latest Apogee wares. The best buy around. Come cruise by and see what all the excitement is about.

Liberty BBS (213)732-2300 Los Angeles, California since 07/92. Sysop: David Salch. Using MajorBBS 6.21 with 183 lines on MS-DOS with 15360 MB storage. ZyXEL at 19200 bps. $25 Monthly fee. Local from 8 California area codes & Chicago. Nationwide ChatLink, WorldLink, MailLink, MajorNet, Internet & Usenet newsgroups. Use your modem to call 800-474-1818 for local & low cost nationwide SprintNet access information. Chat, games, news & more.

The Game Board (214)289-4345 Dallas, Texas since 05/94. Sysop: Alan Bradshaw. Using MajorBBS 6.02 with 10 lines on MS-DOS with 2600 MB storage. US Robotics at 28800 bps. $2 Hourly fee. Interactive multi-player DOOM. Real time chat rooms and e-mail let you really get to know your enemies.

Anarchy Online (214)289-8328 Dallas, Texas since 06/93. Sysop: Alan Bradshaw. Using MajorBBS 6.2 with 20 lines on MS-DOS with 3800 MB storage. US Robotics at 28800 bps. No fee. Categories include: Computer hacking & cracking, drugs, fake ID, fraud & con games, locksmithing, phone phreaking, surveillance and survival. Encrypted e-mail. No ID verification. telnet: anarchy-online.com

Entrepreneur HQ BBS (214)821-1270 Dallas, Texas since 03/95. Sysop: Scotty Votaw. Using Excalibur .82 with 4 lines on WINDOWS with 540 MB storage. Hayes at 28800 bps. No fee. Business opportunities online. Read and DL about businesses currently for sale. View and DL listing of franchisors, their offering, assistance and costs. Seeking capital view directory listings.

ONIX (215)683-1900 Philadelphia, Pennsylvania since 04/87. Sysop: Jeff N Miller. Using MajorBBS 6.25 with 32 lines on MS-DOS with 2550 MB storage. US Robotics at 28800 bps. $15 Monthly fee. Philadelphia's friendliest BBS. 45 multi-player games. Files for IBM, Amiga, MAC, Windows. Local & national chat lines. Live Internet services. MajorNet, Worldlink, Chatlink. A Boardwatch Top 100 BBS. 30 days free for new members. Telnet: 198.70.191.82

Newtown Express BBS (215)943-6806 Newtown, Pennsylvania since 10/91. Sysop: Anthony Maglietta. Using PCBoard 15.2 with 16 lines on MS-DOS with 28000 MB storage. US Robotics at 28800 bps. $20 Quarterly fee. 300-28.8K Baud. The largest selection of files in the area (PA, NJ, DE). The largest selection of original adult GIFs in the area. Dedicated 386 and 486 nodes for fast, reliable service. Preview the adult GIFs before downloading. Call for details.

PC-Ohio PCBoard (216)381-3320 Cleveland, Ohio since 09/85. Sysop: Norm Henke. Using PCBoard 15.21/100 with 52 lines on MS-DOS with 19000 MB storage. US Robotics at 14400 bps. $52 Annual fee. Planet Connect satellite connection. 22 Email networks including the Internet as pcohio.com. 100,000 files, 250 game doors, 5000 conferences. Hayes V.34 28800 modems at 216-691-3030.

Homes OnLine, Inc (216)562-4006 Cleveland, Ohio since 06/94. Sysop: Paul Moon. Using MajorBBS 6.21 with 4 lines on MS-DOS with 528 MB storage. US Robotics at 14400 bps. No fee. Searchable database of real estate for sale with online color photos. Advertising is open to the public & agents. We do all the scanning & data input for you. Call 1-800-896-9002 (voice) for advertising info.

National Justice Centre BBS (216)740-2137 Youngstown, Ohio since 05/94. Sysop: Sheriff Ed Nemeth. Using MajorBBS 6.2 with 4 lines on MS-DOS with 4500 MB storage. Supra at 28800 bps. No fee. Sheriffs, police, jails, prisons and the National Emergency Number Association (NENA) find this BBS serves their policy and communications needs admirably. E-Mail, numberous forums and relavent file libranes strengthen law enforcement, jails & E-9-1-1.

Fantasy Land BBS (217)535-1005 Springfield, Illinois since 12/91. Sysop: Steve Horrighs, Jr. Using PCBoard 15.2 with 5 lines on MS-DOS with 10000 MB storage. US Robotics at 28800 bps. $45 Annual fee. Simply the best. 5+ Megs added daily. Lots of doors. Thousands of message echos from more than 9 national mail networks w/ 3 adults only networks. 1/3 of files online are adult related. Fast online instant upgrades with VISA, MC. Download on first call.

Asia Club (301)203-0281 Washington, DC since 06/94. Sysop: Alex Clarke. Using MajorBBS 6.25 with 8 lines on MS-DOS with 1000 MB storage. Supra at 14400 bps. $.50 Hourly fee. Featuring an exclusive penpal filebase of beautiful Asian ladies desiring American men for correspondence, friendship or romance. GIF photos and bio-data. Call for instant access. Also: chat, games, adult files.

Hafa Adai Exchange (301)994-9460 Great Milis, Maryland since 01/91. Sysop: Todd Cochrane. Using WildCat 4.10M with 2 lines on MS-DOS with 20500 MB storage. US Robotics at 28800 bps. $2 Monthly fee. Biggest BBS in Southern MD. We have Usenet,Fido,Rime Full FDN and Filegate along with Sports and Weather. Planet Connect equipped. Free Internet E-Mail. Well over 55 available CD-Roms to download from. Soon BBS Direct accesible coming in June. Call Today

The Digital Inn (303)296-1300 Denver, Colorado since 03/94. Sysop: Steve Adams. Using TBBS 2.3 with 10 lines on MS-DOS with 17000 MB storage. Intel at 14400 bps. $10 Monthly fee. 18 CD ROM's online, Internet telnet, ftp, email, newsgroups, SLIP/PPP via T1 line. FidoNet, USA Today, Boardwatch, great message areas, games, Ultrachat, 150,000 files. Home of HotelNet online services for the hospitality industry. Free test drive.

DLS InfoNet (303)347-2921 Littleton, Colorado since 11/92. Sysop: Jerry McCarthy. Using WildCat 3.91 with 5 lines on MS-DOS with 8300 MB storage. Supra at 14400 bps. $14.95 Annual fee. User friendly with the personal touch. Large file database, 110 file areas, well maintained. Extensive Windows area. No upload, download ratios. Internet e-mail & 120 newsgroups. RIP graphics. USA Today. Time bank door. Free trial period. Give us a call.

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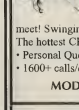
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RAIN (Random Access Information Network) (503)695-3250 Corbett, Oregon since 01/88. Sysop: Mariel. Using WildCat 4.0 with 8 lines on MS-DOS with 10000 MB storage. AT&T at 14400 bps. $50 Annual fee. Credit cards available online. Demo users 15 m. daily, subscribers 90m. Extensive file areas for all operating systems. Latest shareware & GIFs. RIME, Internet, Usenet & satellite feeds. 400+ conference areas, chats, CDRom server, Timedoor.

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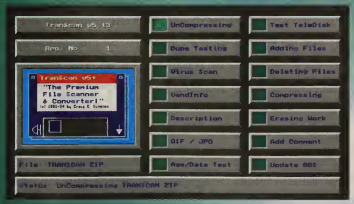

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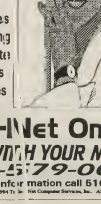

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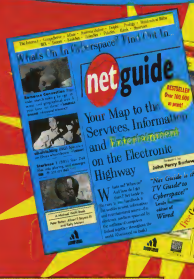

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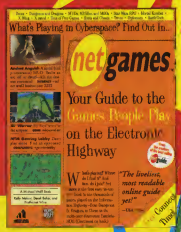

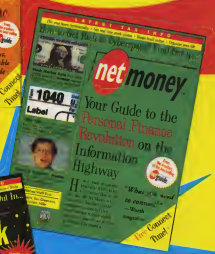

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DVORAK ONLINE by John C. Dvorak

THE INTERNET INVADES SAN JOSE; NO DEATHS REPORTED

A rather good looking woman was at the door of the San Jose Convention Center as I was leaving. "Are you leaving for good?" she asked. "Uh, no, I'm returning tomorrow. You want my pass, right?" She looked at me plaintively then up towards the upper entrance where a line a mile long was strung out from the admissions booths. "Yes. Look at the line!" I should have just given her my pass and she would have been John C. Dvorak for a while, but like the Internet itself as it rolls along like a juggernaut, I rolled by the poor girl and out of the show. I felt bad later since I never did return. I didn't see anything in the first place that excited me. In fact, the only interesting thing about the Internet is the excitement itself. The Meckler-run show has gone from a dud to something spectacular. People putting on dull Windows or OS/2 shows must be freaked when they see these crowds. And something missing from all the other shows is at an Internet show: Females.

Having gone to trade shows for over 20 years (get me my walker, Daisy!) I can tell you that it's pretty depressing to go to trade show after trade show without seeing a few women (not that it's important). I mean this Internet group in particular has a lot of fat guys who are Unix hacks. They contrast nicely with the thin booth babes from Spry, for example. Now I suppose I'll get some hate mail from a feminist — send it care of Jack Rickard, Boardwatch. Luckily Jack Rickard agrees with me on this: we need more women at trade shows! Of course, this Internet phenomenon attracting a few bright women is short - term like everything else in high tech. No letters please, I've seen this same situation over and over.

This is what ends it for the females: First they discover that this isn't show business. There is no real glamour in the computer industry. It's hard work. And weird fat guys come up to them with buttons that say "Unix Means Never Having to Say URL Sorry" who ask the women if they want to get pizza with them. When they say no, the guys ask if they want to mate with them. About the time the hapless fem is about to cringe the goofballs belch some sort of anchovy smell at them and then laugh like Bevis and Butthead. This ends it for all but the few women who actually like this kind of aromatic behavior. Unfortunately for us all, these are the same guys who write all the good code. Go figure.

All the women will bail out of the Internet scene and end up in the world of Multimedia where there are fewer chubbed out Unix hacks (they're all working for the "tool" companies in the multimedia scene) and where there are more artistes. Make sure you use the "e" as these are not artists, they are artistes! Being so they are highly full of crap in everything they do and say, but they don't belch in the girl's face let alone eat pizza. They tend to attract the lovely women who know absolutely nothing about computer technology but somehow have been led to believe that Multimedia, in particular, is cool and *tres* important. Also there is money to be made. The know-nothing gal and the artiste plan their grande scheme to make a million (or more). Before any of this comes to pass the artiste runs off with a callipygious roller blader named Brooke and the young woman decides to spend her time exploring the world of bisexuality and eventually finds it more fulfilling to work the cosmetics counter at Macy's where she can lord it over all the other women who know even less about computing.

I have nothing against women in computing if they're serious and not simply star struck. One tip, the ones with the most on the ball have degrees in math, ok? Anyway, I suppose this kind of complaining further exacerbates the situation I so bemoan. Oh well. The point is the Internet Show was full of star struck females who think they are on to something.

I looked over the show to see what was going on and I can report, with confidence: NOTHING. Nada, zip, zero, zilch, bupkis. Oh yes, there is a browser or two. There is a server or two. There are a couple of authoring packages so you can turn your trusty Pentium into a web site. But overall, unless you are the rube of a lifetime, this is dull stuff. The only thing interesting was over at the PC Magazine Editors Day event across the street where I was shown a virtual reality Internet browser that was kind of like playing DOOM.

Let's be honest about the Internet phenomenon. There are two things going on. One is a proliferation of what would have been called BBS's a few years ago. These are web sites now. They are prettier than the old BBS software of days gone by. And they have these hyper text jumps from web site to web site that is mostly unused potential. Some of these nouveau BBS's such as Hot Wired eschews the concept that you jump to another service and it sits there hardly different than any BBS that you pay a fee to use. The only difference is that it's got modern graphics and it's on the net. Still, it's a glorified BBS. The other aspect of the Internet that is important is e-mail. Most of the activity on the net is e-mail. All of a

In addition to his weekly syndicated radio call-in show, "Software/Hardtalk," syndicated newspaper columns, magazine writing for *MacUser*, *PC Computing*, *DEC Professional*, *Information Technology*, and his featured "*Inside Track*" column in *PC Magazine*, Dvorak is the author of several best-selling books, including *Dvorak's Inside Track to DOS & PC Performance*, *Dvorak's Guide to PC Telecommunications*, and *Dvorak's Inside Track to the Mac*.

sudden e-mail is king. How many years did this finally take? No reason to moan and groan, at least it finally happened and happened big. A few days ago I visited the groovy brew pub in Berkeley, Triple Rock, to taste the cask conditioned I.P.A. that they now brew. "Are you on our mailing list," the barmaid asks. "No." She hands me a sheet of paper, "Put your e-mail address on here and you'll get a weekly newsletter telling about the brew of the week." Cool, eh?

The last thing noteworthy about the Internet fad is the I.R.C., the Internet Relay Chat. Anyone who has used this and compared it to either Compuserve's CB, AOL's People Connection or even the Garbage Dump BBS knows what a serious piece of crap it is. Let's be real about it. It's terrible and arcane.

So where do we go from here? Well connectivity is still a forward moving force within the computer community and that's not changing. The Internet created awareness and that's good. Now everyone who is anyone has an e-mail address and it's about time. Being online is good for the soul and I guess that means the collective soul of America will be strengthened. And for now there are a few good-looking women working the booths. Don't worry, it will blow over and things will be back to normal sooner than you think.◆

DVORAK'S RECIPE NOOK

Thoughts on Liver

There are a lot of weird things to eat, none as controversial as liver. When I was in college I took a liking to liver and developed a number of recipes for it such as liver cooked in wine burgundy style. But with simple foods such as liver, nothing beats the classic two: liver and onions or liver and bacon. I've combined those two dishes to make liver with bacon and onions which is an effortless recipe I'll discuss this month.

ORGAN MEAT. First I should mention a few curiosities concerning organ meat. First of all they go off the scale with regards to cholesterol. I refrain from cooking organ meat, including liver, because of this. I do get a hankering for liver about two times a year, though, and I believe moderation augments the cholesterol hazard. Other organ meats in this same category include brains and sweetbreads. Brains I don't cook, but I've eaten brain tacos in Mexico and Texas and found them to be great and not disgusting at all. See if the taco truck near you has Tacos Sessos — that is the brain taco. I've considered ordering it for someone once in a while as a gag telling them it's some sort of potato souffle the Mexicans put in a taco..

I do cook sweetbreads. These things, which are the thymus and thalamus glands of a steer or lamb, are so loaded with cholesterol that they might kill you on the spot. And, worse, they are very difficult to cook properly. It took me about two years to develop the techniques properly and now I never cook them. In fact, when done properly they are spectacularly delicious. People interested in good food should seek out a restaurant where they are served and where the restaurant has a reputation for doing them right. You won't be disappointed.

CRAVINGS. Anyway, anyone who eats liver knows that you develop a craving once in a while. I believe the body seeks out certain nutrients and can identify the source of such nutrients triggering a "craving." Liver obviously contains a lot of weird nutrients. Ask any liver eater.

I don't like tasteless liver such as calve's liver or veal liver. I like full liver flavor and that means beef liver, which turns out to be dirt cheap. I also like turkey, goose, duck and chicken liver in various recipes and pates. Pork liver is best done by the French in a terrine or pate. Curiously people who say they hate liver will eat a chicken liver pate, foie gras (a giant liver from a forced fed duck or goose) or liverwurst which is probably more liver flavored than my beef liver dish. Go figure. ◆

Liver with Bacon and Onions

Ingredients Beef liver; lean bacon; sweet onions (Vidalia, Maui, Walla Walla,etc.); white wine; salt; pepper

For each half pound of liver use three strips of bacon. Start by frying the bacon until the fat is rendered. Put aside on a warming tray or into a hot pan when cooked to drain. Leave the fat in the pan and add one onion for every half pound of liver sliced into fine onion rings. Fry until soft in the bacon fat. To expedite toss in a little white wine to steam cook and to add flavor. Salt and pepper the onion as it cooks.

When done put them in the warming pan with the bacon to drain and to continue to slow cook. The rest of the bacon fat is used to cook the liver. This old-fashioned recipe efficiently uses all the fat from the bacon for cooking, but you'll notice at the end that much of the fat (unless you obtained very little) is left in the pan. It's not as if you are just pigging out on bacon fat here. Also note: use lean bacon, the real smoked kind — the best you can buy..

The liver should be thin sliced. Some cooks like to dredge it in flour before cooking. In this recipe it would just make the liver soak up bacon fat. I cook it plain at medium heat until it is just done in the middle. Monitor a thicker piece and when it has turned brown cooked in the center but when you can still squeeze out a drop of pink juice it's done. Undercooked and the liver is kind of gross...overcooked it's terrible, but edible. You have to practice to get it perfect.

Put the cooked liver on a plate. Cover it with the fry cooked onions and on top of the onions put three or four slices of the bacon. A blast of finely chopped chervil over the presentation is a nice touch and adds a pleasant bouquet to the meal. I serve this with a chilled red wine from a lesser wine district or a generic California red. Yes, chilled. The chilled red was Louis Martini's Burgundy or their old generic "red wine" which I believe they no longer produce. It was a fluke I discovered this perfect combination for liver as an incompetent cook had unknowingly chilled a cheap red wine to serve with liver and I found the combination to be astonishing. I did this dish recently with a chilled Viano Hillside Red and it was perfection. Try it. ◆

▲ In addition to complete documentation, TBBS comes with a 40 minute installation video tape.

► Number of simultaneous, full-speed ZMODEM downloads at 38.4 kbps on a single P5/60 CPU.

▲ The test was conducted in the eSoft Testing Lab. Each PC represents one BBS user.

◄ A 64-line TBBS and Internet Protocol Adapter (IPAD). Minimum hardware – maximum power.

◄ The high reliability of TBBS means its power won't turn on you. No babysitting required.

► TBBS' unprecedented flexibility lets your BBS talk to your callers in their language.

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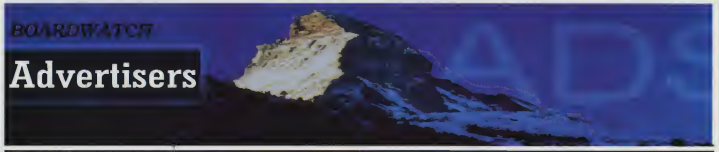

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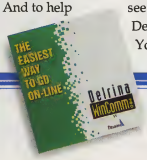

December 1994

May 30, 1994

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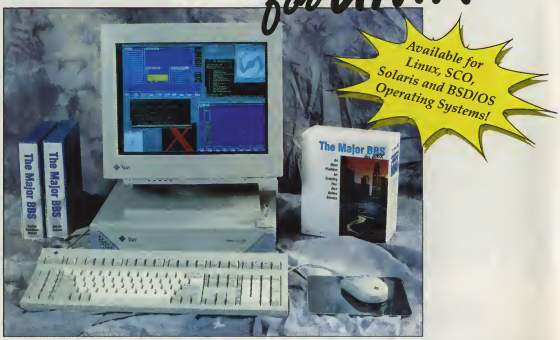
The Major BBS® for UNIX



A professional, multi-user online platform for the UNIX environment

The Major BBS for UNIX combines an open architecture, customizability, loads of features, and a friendly interface with the power of the UNIX environment. It's the perfect platform for a technical support system, entertainment service, corporate workgroup interface, or an interactive service on the Internet.

A Complete Online Platform

Everything you need to launch your online service is included: local and Internet e-mail, forums, USENET newsgroup support, file libraries, polls, questionnaires, teleconference, telnet, ftp, QWK-mail, multilingual/multiprotocol architecture, a suite of RIP*scrip* GUI menus, a full-screen editor and more.

Graphical User Interface

Users can choose between ANSI or RIP*scrip* graphical interfaces for smooth and intuitive navigation. You have complete control over the "look and feel" of your system. Create your own menu screens, messages and prompts, security and accounting levels and more. Or use the default set-up to get up and running quickly.

An X Window interface permits maintenance while your system is running. Validate users, monitor system performance, view system statistics — everything you need is right at your fingertips.

User-Defined Applications (UDAs)

Easily integrate text-based applications as seamless menu options for your users. Attach external programs such as databases, spreadsheets and system utilities.

If you are an Internet service provider, offer shell accounts, Lynx for WWW access, IRC, external USENET news readers, text-based games — all under a friendly interface that is easy to use. Applications can be run on the same machine as your BBS or on other machines connected over your network.

And more...

The open architecture of The Major BBS for UNIX provides an API layer to design custom applications. Create shopping mall interfaces, online fax systems, interactive games, Internet tools and more. You can do all of this because we make the C source available.

The Major BBS for UNIX is currently available for Linux, SCO, Solaris and BSD/OS. For more information, give us a call at 1-800-328-1128 (or 305-583-5990 outside the U.S. and Canada). You can also send e-mail to unix@gcomm.com. Access our home page by pointing your Web browser to http://www.gcomm.com. Or, dial into our BBS at 305-583-1759.

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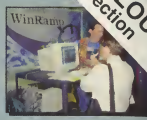


ONLINE NETWORKING EXPOSITION AND BBS CONVENTION 1995

ONE BBSCON
TAMPA
AUGUST 16-20,1995

- Electronic Bulletin Boards
- The World Wide Web
- Internet Connectivity
- Online System Management
- Real World Success Stories
- Online Business Opportunities

The Most Intense Gathering of Online Professionals Anywhere

A Shameless Celebration of Online Technology

The ONE Show That has it All

REGISTRATION INFORMATION

A Special Invitation

The Online World has never faced so much change and technological evolution in so short time as in 1995. At the same time it's becoming centrally important in ways it never used to be. The days when you could be successful with casual knowledge are over. But if you spend a month learning about it you're already a month behind. There's only ONE place where all elements of online success come together - ONE BBSCON. The most varied exhibits - literally hundreds of educational sessions - covering every topic - in three days in August you will learn more from those who do than you can learn in a year any other way.

The Online Networking Exposition and BBS Convention (ONE BBSCON) has emerged over the past four years as one of the brightest stars in the trade show universe - and for the very best of reasons. It has been superbly effective in providing attendees with the two things they most want in an educational gathering - hard, useable information; and an opportunity to network with the industry players in one of the most exciting arenas of today's technology. Last year, nearly 4,000 BBS operators gathered in Atlanta Georgia for ONE BBSCON 1994. This year, we expect ONE BBSCON 1995 to continue the phenomenal growth in Tampa, Florida.

Last year, ONE BBSCON presented some 173 in-depth educational sessions and seminars in three days - a presentation schedule so hectic no other trade show organiation even attempts it. This effort to encapsulate the hundreds of areas of online activity that comprise the current explosion in PC communications resulted in as many as fifteen seminars occurring at any one time covering everything from satellite delivery to ISDN, building communities online to Internet connectivity issues, from attracting callers to making problem callers go away, from copyright issues and pornography to telecom in education - and all of it on a how-to, what-to, when-to, and why-to level - no happy talk or visionary thinktank babblegobble. This year, the community promises to deliver exceptional low-cost solutions to world-wide Internet connectivity for PC-based bulletin boards - a connectivity solution at an absurdly low price. And nearly 350 product vendors are hoping to show their newest connectivity product rollouts designed specifically to make a splash at this one show. If you want to know how to do it online, you'll find it somewhere in the halls of ONE BBSCON.

And we're exceptionally proud of the type of vendor that participates in ONE BBSCON. While many tradeshows are dominated by large companies with public relations teams that will be happy to "mail you" some information, ONE BBSCON attracts many smaller, newer companies with innovative and in some cases revolutionary products with the people who designed it in the booth and excited to talk about and demonstrate their inventions. A good impression made on the 7000 BBS and online service operators attending a ONE BBSCON is carried within hours or days to literally millions of callers to those services.

The second benefit of ONE BBSCON is, of course, the networking. The deal making in the halls and hospitality suites of ONE BBSCON reaches such a fevered frenzy of entrepreneurial energy - 24 hours per day from Wednesday to Sunday, that just being in the room with it will leave you weak in the knees - literally. From behemoths like Rockwell International, IBM, AT&T, Hayes Microcomputer Products, and MCI, to single line BBS operators, tiny software development companies, and third-grade school teachers, all claim to have "discovered" this one convention as the pre-eminent networking opportunity of the year.

Aside from who's selling what to whom, you'll see educators swapping notes with teen-age software developers, federal government BBS administrators picking up tips from home-based BBS entrepreneurs, Internet service

providers waving their arms at BBS software vendors, IRS managers huddled with CompuServe forum administrators, shareware software developers talking with credit card merchant account representatives, and attendees from some 30 countries all seeking to find that one piece of the puzzle they need to take back home with them to make their online service successful. Judging from the number of new product and industry announcements directly traceable to last year's convention, it is utterly clear that they are finding it. And each and every attendee takes home just a bit more than they brought with them.

But aside from these two concrete benefits, ONE BBSCON has a third element you must experience at least once to comprehend. It is a form of energy - an energy of enthusiasm borne of being a key part in the birth of an exciting new industry that has the potential to change the world. While the rest of the world buzzes about in mixed confusion over the "coming National Data SuperHighway," the "National Information Infrastructure," and the joys of "CyberSpace," ONE BBSCON attendees represent the online construction workers who are actually building it today where it matters - at the precise point where an individual computer user connects to the online world. It is exactly where the "rubber meets the road" on this otherwise ethereal data highway, and these are the people who have to ANSWER questions NOW from callers who've made that first connection and demand to know.

There will likely be several hundred hastily cobbled-together seminars, conventions, and events held this year on the Internet, the National Data SuperHighway, bulletin boards, and variations on the theme. It's a hot topic and everyone's getting onboard. Attend all of them if you've the time. We're confident that if you do, ONE BBSCON this August will STILL be your FIRST real point of contact with the techniques, information, technology, and people you'll need to prosper, profit, and thrive on this future byway of commerce.

But if you've time for only ONE trade show this year, find someone who has already successfully realized their dream of building that successful BBS at home and escaped the corporate job track forever - or the hero in your own company (or your competition's) that turned the world around with an inexpensive PC in a closet that now outproduces some company departments. Find that BBS operator that already offers global Internet e-mail, a World Wide Web server and ftp connections, and ask them directly. Chances are they DID attend ONE BBSCON last year and they won't stutter with the answer - "There's only one - ONE BBSCON."

This year's ONE BBSCON in Tampa, Florida promises to be the biggest and the most exciting international gathering of BBS operators in history. We invite you to join us.◆

Jack Rickard

Jack Rickard, President
ONE, Inc.

Phil Becker

Philip L. Becker, Secretary/Treasurer
ONE, Inc.

ONE BBSCON 1995
PRELIMINARY CONFERENCE AGENDA

TAMPA CONVENTION CENTER
HEADQUARTERS HOTEL: HYATT REGENCY TAMPA

WEDNESDAY, AUGUST 16, 1995

8:00am - 6:00pm	Exhibitor Registration Open
11:00am - 7:00pm	Attendee Registration Open
7:30pm - 10:30pm	Welcome Reception on the patio at the TAMPA CONVENTION CENTER

THURSDAY, AUGUST 17, 1995

7:00am - 6:00pm	Exhibitor Registration Open
7:00am - 6:00pm	Attendee Registration Open
9:00am - 11:30am	Welcome, opening Session
12:00nn - 1:30pm	Lunch
1:30pm - 4:30pm	Seminars
1:30pm - 7:00pm	Exhibits Open
3:00pm - 3:30pm	Coffee Break

FRIDAY, AUGUST 18, 1995

7:00am - 6:00pm	Exhibitor Registration Open
7:00am - 6:00pm	Attendee Registration Open
9:00am - 6:00pm	Seminars
9:00am - 6:00pm	Exhibits Open
10:00am - 10:30am	Coffee Break
12:00nn - 1:30pm	Lunch
3:00pm - 3:30pm	Coffee Break
8:00pm - 1:00am	Vendor Hospitality Suites (Location to be announced)

SATURDAY, AUGUST 19, 1995

7:00am - 6:00pm	Exhibitor Registration Open
7:00am - 6:00pm	Attendee Registration Open
9:00am - 6:00pm	Seminars
9:00am - 6:00pm	Exhibits Open
10:00am - 10:30am	Coffee Break
12:00nn - 1:30pm	Lunch
3:00pm - 3:30pm	Coffee Break
7:00pm - 11:00pm	Dvorak Hayes Awards Banquet (Optional Dinner Event)

SUNDAY, AUGUST 20, 1995

8:00am - 12:00nn	Exhibitor Registration Open
8:00am - 12:00nn	Attendee Registration Open
9:00am - 12:00nn	Seminars (Conference Adjourned)
10:00am - 10:30am	Coffee Break

REGISTRATION AND WELCOME

Registration and a welcoming reception for the ONE BBSCON '95 starts Wednesday, August 16th. The convention officially opens with a general session at 9:00 am, Thursday, August 17th. This session will include addresses by each of the Executive Advisory Board members, and a keynote address.

ONE BBSCON SEMINARS

The Online Networking Exposition and BBS Convention has two primary features of interest to attendees. A 100,000 square foot vendor exhibit trade show area allows software, hardware, and networking vendors to show off the very latest in PC communications technology. The main focus of the ONE BBSCON is the educational aspect. Last year's show featured some 200 notable speakers participating in over 170 educational seminars. At any one time, as many as fifteen sessions were going on simultaneously - an educational track of sessions that would ordinarily comprise any normal three day convention occurs EVERY HOUR at ONE BBSCON.

This year's event promises an even greater cornucopia of seminars and educational sessions, with more hands-on workshops and more panel discussions than ever before. The Tampa Convention Center offers us some 18 assembly rooms, equipped with the most modern audio/visual equipment available.

ENTREPRENEURSHIP ON THE INFORMATION HIGHWAY - HOW TO RUN A BBS FOR PROFIT

Traditionally, one of the popular tracks at ONE BBSCON, this series of seminars focuses on the topic of entrepreneurial activities in the online world. The current expansion of the Internet to commercial operations

◆ *"We participate in tradeshows like ONE BBSCON to build awareness of our leadership position in the modem industry. Our presence and ad in the ONE BBSCON show guide clearly increased our visibility to attendees last year, so we'll be back this year!"*

Julie Seymour
Rockwell International

EXECUTIVE ADVISORY BOARD

In order to ensure ONE BBSCON represents the widest possible range of online activity and does so in a manner useful and valuable for attendees, an Executive Advisory Board structure provides input and suggestions on the educational and presentation aspects of ONE BBSCON. This year, the ONE BBSCON Executive Advisory Board met for three days at the Lodge at Cordillera in Colorado January 10-12 to lay the groundwork for ONE BBSCON 1995. Executive Advisory Board members for the 1995 ONE BBSCON include:

John C. Dvorak
PC Magazine/PC Computing

Dennis C. Hayes
Hayes Microcomputer Products, Inc.

Kevin Behrens
Aquila BBS

Bob Metcalfe
Infoworld

Stan Hirschman
Software Etc.

Dave P. McClure
Association of Online Professionals

Dave Hughes Sr.
Old Colorado City Communications

Jim Harrer
Mustang Software, Inc.

Scott Brinker
Galacticomm, Inc.

Michael Greenbaum
Bell Atlantic

Steve Larsen
Prodigy Services Company

Bill Washburn
MecklerWeb

promise to make this track even more popular as many attendees express a strong interest in leaving the corporate job mill to start their own entrepreneurial business from home using online technologies. Sessions cover some of the basic business functions of a successful online enterprise including how to attract callers, build a sense of community, what callers do online, how to price services and more. It also includes some of the common problems of obtaining credit card merchant status to take MC and Visa payments, direct mail promotion, business plans, funding and more. Sessions are given by people who have operated financially successful bulletin boards as their sole means of income. Many of the most popular of these feature panel discussions where operators of such bulletin boards as EXEC-PC, Aquila BBS, PC-Ohio, Databank, Bruce's Bar & Grill, Invention Factory, Executive Network, and others answer audience questions regarding how they built their single line BBS into a thriving home-based business grossing as much as $1 million per year.

SURVEY OF BBS SOFTWARE PLATFORMS

The most common question asked by those considering putting BBS technology to work for their business, their school, their governmental department, or for their own entrepreneurial activity is "Which BBS software should I use?" Unfortunately, there is no short answer. The range of applications that employ BBS technology, and the range of features provided in different BBS software packages, makes the decision as to "which BBS software" not only one of the most crucial decisions you'll make on the road to a successful implementation, but also the most difficult. ONE BBSCON uniquely provides a forum for researching and comparing BBS packages and technologies head-to-head and side-by-side, allowing you to talk directly with the authors and developers of virtually ALL the popular BBS software packages used today. In this track, each BBS software developer provides an introductory session providing an overview of features and applications for which their package is best suited. There isn't another opportunity anywhere on the planet to do this type of comparison. As a result, this track has been very popular with the corporate/government attendees tasked with "picking the right one."

◆ *"Both of the ONE BBSCON shows to date have provided valuable insights into what is clearly an emerging industry. Now that the Information Super Highway is a well established media phenomenon, I expect that those in the know will find ONE BBSCON as valuable to participate in the new revolution as COMDEX has been to those who participated in the PC revolution."*

David Whittle
IBM

A partial sampling of last year's ONE BBSCON speakers includes:

Abernathy, Joe
Aloia, Rodney
Ambler, Chris
Appleby, Jim
Banks, Pete
Barber, Steve
Berry, James
Baskerville, Bob
Beaverson, Charla
Bechtold, Alan
Becker, Phil
Beckman, Geoff
Behrens, Kevin
Bergman, James
Bertilsson, Patrik
Beruk, Peter
Blanchard, Mark
Bloom, Susan
Bodger, Bruce
Brinker, Scott
Bryant, Alan
Burnett, Mark
Bush, Ed
Carlson, David
Carr, Jim
Carrera, Ivano
Carriger, James
Chapman, Michael
Charnoff, Leonard
Chaum, Dr. David
Chiappone, Chip
Christensen, Ward
Chubb, Lee
Clark, Fred
Clark, John
Clawson, Pat
Clement, Simon
Clements, Brad
Cooke, Gordon
Coughlin, Brian
Cozzi, Eric
Cuervo, Fabian
Cunningham, Stephen
Curdy, William
Curtis, Paul
DaQuano, Jack
Davis, Bob
Davis, Paul
Delfel, Randall
Donovan, Brenda
Drury, Matt
Durand, Andre
DuRocher, Sylvain
Elliott, Brian
Epstein, Charles
Fellman, Harris
Forsberg, Chuck
Fowler, Dennis
Fox, Daniel
Frey, Russell
Gerber, Kathy
Getty, Troy
Gibson, Graeme
Glasgow, Karl
Godwin, Mike
Gooden, Greg
Gotthelf, Ezra
Graham, Mark
Green, Randall
Greenbaum, Mike
Grenier, Al
Gutherly, Tom
Hamilton, Seth
Hammond, Nete
Hanson, Dan
Harrer, Jim
Hartfilan, Bob
Hauser, Dennis
Haynes, Steve
Hayton, Mark
Heder, Tess
Heizman, Josh
Heming, Rick
Henke, Norm
Herring, Mark "Sparky"
Hertenstein, Frederic

PC World
The Index System
UUPlus Development
The Business BBS
Nat'l Center for Missing Children
Lance Rose and Associates
ResNova
MMB Development Corporation
CompuServe
BBS Press Services
eSoft, Inc.
Searchlight Software, Inc.
Aquila BBS
Telegrafix Communications Inc.
InterMail Software Inc.
Software Publishers Association
Evansville Courier
The Business BBS
Truckstop BBS
Galacticomm, Inc.
eSoft, Inc.
Application Programming & Dev.
Logicom, Inc.
The Albuquerque Tribune
Jim Carr Solutions, Inc.
Studio 5 Liguria srl
Ventura Co. Community College
Quarterdeck Office Systems
Information Odyssey
DigiCash bv
General Electric Information Sys.
CBBS/Chicago
InterFace Builders
Clark Development Company, Inc.
Northern Telecomm
TeleGrafix Communications, Inc.
DataSafe
MurkWorks, Inc.
The Cooke Report
PBS
Mustang Software, Inc.
Galacticomm, Inc.
Northern Telecom
Summit Software Services
Coast Computer Technology
Northern Telecom
PHD-NSWC
Mustang Software, Inc.
deltaComm Development
Pacific Rim Information BBS
The 'Go Graphics' Group, Inc.
Durand Communications, Inc.
Vircom Inc.
Durand Com. Net.. Inc.
Ravinia Associates
Galacticomm, Inc.
Omen Technologies Inc.
Computer Shopper Magazine
Electronic Card Systems, Inc.
PowerBBS Computing
CompuServe
Integrated Solutions, Inc.
Computers Today on Television
eSoft, Inc.
Electronic Frontier Foundation
The Annex
Delphi Internet Services
Pandora Systems International
Durand Communications, Inc.
Prodigy Services Company
Cykic Software
FLIX Productions
Hamilton TeleGraphics, Inc.
Jabberwocky
Parallax Development Cor.
Mustang Software, Inc.
eSoft, Inc.
Resort Tour & Cruise
Exchange Computers
TeleGrafix Communications, Inc.
Channel 1 BBS
TFSnet
Mustang Software, Inc.
PC-Ohio PCBoard
QMail Deluxe
Executive Director, ASAD

Hewgill, Greg
Hopmann, Alex
Houston, Bob
Howard, John
Hughes, Dave
Hull, Stephen
Hunter, Scott
Javorick, Kathy
Johnson, John
Jones, Dave
Julson, Michael
Katz, Phil
Kauffman, Sheila
Keeves, Andy
Kennedy, Dave
Kennedy, Peter
Keri, Dean
Kirschner, Bruce
Klingler, Steve
Korman, Cindy
Kovasilpi, Sakari
Kramer, Charles
Kuykendall, Andy
Lane, Walt
LaRosa, Frank
Larsen, Steve
Linton, Dan
Livingston, Steve
Lovetto, Michael
Maccaferri, Merco
Maher, Daniel
Maier, Ken
Mallut, Berbara
Markowitz, Maury
McCarthy, Ken
McCauley, William
McClure, David
McInnis, Michael
Meier, Gerald
Metcalfe, Robert
Michnick, Robert
Moriarty, Jeff
Morris, Patty
Nash, Ken
Neelakanta, Mahesh
Nelson, Ted
Overholt, Joe
Paulsen, Stan
Peace, George
Pierce, Jim
Prinner, Bruce
Rearick, Jean
Redman, Michael
Reeder, Jeff
Rickard, Jack
Ricketts, Joel
Rintel, Ian
Robertson, Sam
Robison, Scott
Rose, Lance
Rossiter, Tim
Royer, Ken
Rozenberg, Bert
Ryan, Greg
Ryan, Kathy
Santos, Hector
Severn, Jonathan
Sherrod, Phil
Smiler, Barry
Souvestre, John
Stein, Bob
Stewart, Pamela
Stewart, Peter
Struempf, Ron
Sussell, Kathy
Sussman, Vic
Templeton, Brad
Terry, David
Thornally, George
Timberman, Roy
Walsh, Dale
Welch, Scott
White, Pete
Whittle, Dave
Wood, Larry
Woods, Jeff

Mustang Software, Inc.
ResNova Software, Inc.
Software Agents, Inc.
Village Features Syndicate
Old Colorado City Com.
TogetherNet Foundation
Mustang Software, Inc.
PDN/Chatlink
Icarus BBS
TeleFlora Creditline
BSI Technologies
PKWARE, Inc.
Kauffman & Johnston Consulting Grp.
The Executive Network Info. Sys.
Deloitte & Touche
George, Donaldson & Ford
DataSafe Publications, Inc.
Boulder County Civic Center
Clark Development Company, Inc.
Galacticomm, Inc.
Vienet OY
Attorney-at-Law
Online MacIntosh Users' Group
Fileshop BBS
Searchlight Software, Inc.
Prodigy Services Company
Software Creations
New Media
Red Cross National Headquarters
LORA BBS
APDI
Galacticomm, Inc.
Blazin' Bytes BBS
SoftArc, Inc.
Marketing Solutions/E-Media
Lawrence Livermore Nat. Laboratory
Association of Online Professionals
dynabyte Computer Consultants
TWO BBSCON
InfoWorld
Microsoft
High Velocity
My Secret Garden BBS
Galacticomm, Inc.
Galacticomm, Inc.
Xanadu World Publishing Repos.
Planet Systems, Inc.
Clark Development Company, Inc.
Pennsylvania Online! BBS
Integrated Solutions
Stealth BBS
MarketSpace, Inc.
Master Design, Inc.
TeleGrafix Communications, Inc.
Boardwatch Magazine
InterScape Development
Cheeresoft
Mustang Software, Inc.
Clark Development Company, Inc.
LOL Enterprises
Searchlight Software, Inc.
National Technical Information Svcs.
Mountain Rose Multi Media
EXEC-PC
America Online Inc.
Santronics Software
Cardservice Tri-Counties
S&H Computer Systems, Inc.
Bardon Data Systems
Southern Star BBS
Galacticomm, Inc.
Crystal Quill, Inc.
InterMail Software Inc.
Sirius Software, In.c
Invention Factory
US News & World Report
CiariNet Communications Corp.
Clark Development Company, Inc.
BTI Company
Sound Advice
US Robotics
SoftArc, Inc.
GWA Services
IBM, Inc.
The 'Go Graphics' Group, Inc.
deltaComm Development

The track further splits into detailed tracks for each popular package, demonstrating particular techniques on making the Internet connection, providing graphical interfaces, and introducing the wealth of third-party add-on modems and utilities available for each package. For existing BBS operators, these comprise virtually "mini-conventions" and work shops to learn the latest techniques and master tools to improve their BBS operations.

THE INTERNET - CONNECTIVITY AND FUNCTIONS

The internet has grown to connect over 3,200,000 computers on some 35,000 local area networks, creating the largest global network for data in history. This is a key part of the National data super highway so much in the press these days. At the 1993 ONE BBSCON, Dr. Vinton Cerf, president of the Internet Society and one of the original inventors of the TCP/IP protocol suite, characterized the individual BBS systems as the future "Gutenberg Press" of the Internet, and indeed the PC-based BBS packages promise to be absolutely the most cost effective means of hosting your own Internet site. This year, virtually every BBS software vendor is planning product introductions that will allow you to connect a low-cost PC-based bulletin board system to the Internet for ftp, telnet, World Wide Web and e-mail access at dollar figures unheard of previously in the Internet community. How to connect a BBS to the Internet is currently the hottest question out there among existing BBS operators, and of serious interest to those looking for an inexpensive method of establishing a presence on the Internet using a PC in a closet.

This track includes sessions describing the Internet generally, and working toward more specific uses of the UUCP dial-up protocol, SLIP, PPP, 56KB IP connections, T1 connection, telnet, ftp, Mosaic and World Wide Web, Gopher, the domain name system, Archie, and more. Most specifically, it includes detailed sessions on connecting various BBS platforms to the Internet for these services - how to, where to, what to.

ONE BBSCON will feature full Internet Protocol ethernet connectivity to every booth on vendor floor, all session classrooms, and a bank of terminals for attendees to try out this fascinating new global connectivity. It promises to be one of the hottest topics of the show.

LEGAL AND SOCIAL ISSUES IN ONLINE SERVICES

The online community comprises a new frontier for human activity and a brand new byway of commerce for business. Like any frontier, it brings up a host of questions of both a legal and social nature. This track deals with issues such as copyright, trademarks, freedom-of-speech, pornography/obscenity, privacy, gender issues online, and the social and legal aspects of doing business in an online world. Led by experienced attorneys who have steered their legal careers into areas dealing with intellectual property and new technologies, this track is particularly helpful in steering clear of legal difficulties encountered in operating an online service of any type.

EDUCATION AND GOVERNMENT APPLICATIONS OF BBS TECHNOLOGY

Nowhere has the application of BBS technology been more successful than in the government sector, with hundreds of bulletin boards springing up at the federal, state, and local level. Additionally, the education community has struggled with developing online technology as an educational tool. Again and again, the low cost of BBS applications has proven a winner in these sectors. In this track, successful BBS operators within government and education share the techniques used to fund, install, and operate successful bulletin boards to fill the mission of their organization.

GENERAL CONNECTIVITY TRACK

A big area of interest in the BBS community revolves around the various means of connecting bulletin boards to each other. This track examines the history, technology, and future of various BBS networks such as the International FidoNet, RIME, ILINK, other QWK networks, and more.

TECHNOLOGY TRACK

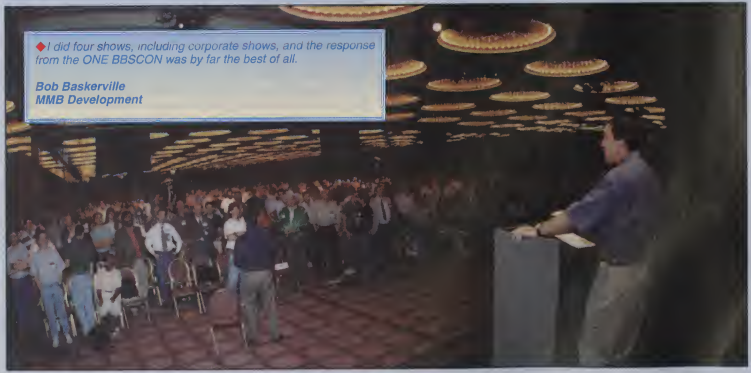
The online community is founded on, and continues to deploy the latest in communications technologies to the advantage of individual callers. This track examines high speed modems, Integrated Services Digital Networks (ISDN), Direct Broadcast TV, Cable TV and X.25 networks, for connecting callers to online services. It also delves into areas such as geographical interfaces, mail utilities, and other areas of development in bulletin boards.

◆ *"ONE BBSCON gives us the opportunity to get our software engineers out of the office and in front of our customers. Our Wildcat! Sysops love to be able to talk one-on-one with these guys and bend their ear on the features they need the most. Our Engineers come back charged up ready to work wonders! We would not miss ONE BBSCON, it is the year's hottest event!"*

Jim Harrer
President/CEO
Mustang Software, Inc.

◆ *"Por segunda vez la conferencia ONE BBSCON, organizada por la empresa ONE INC. logro reunir a miles de operadores de sistemas que durante cuatro dias compartieron una amplia variedad de actividades. El evento incluyo una completa sesion de conferencias y una exposicion con decenas de stands. El numero de asistentes se calculo en 2,000 y para la proxima conferencia en 1994 esperan contar con 4,000."*

Javier Matuk
PC-Semanal
Mexico City



◆ *I did four shows, including corporate shows, and the response from the ONE BBSCON was by far the best of all.*

Bob Baskerville
MMB Development

ONE BBSCON

AUGUST 16-20,1995

Registration &
Hotel Reservation
for the 4th Annual

ONE BBSCON

TAMPA CONVENTION CENTER

Headquarters:
Hyatt Regency Tampa

REGISTRATION FORM

ONE BBSCON

AUGUST 16-20,1995

REGISTRATION FORM

TODAY'S DATE: _____

How did you hear about ONE BBSCON? _____

MAILING INFORMATION: (Please Print Clearly)

Full Name: _____
Last First Middle Initial

Company: _____

Address: _____
Street Apartment/Suite

City: _____ State: _____

Zip: _____ Country: _____

Voice: _____

FAX: _____

BBS: _____

If you are a BBS operator, Please answer the following:

BBS Name: _____

BBS Phone: _____

BBS Software: _____

Number of lines: _____

Type:
- ❑ Subscription/Fee
- ❑ Business
- ❑ Hobby
- ❑ Government
- ❑ Education
- ❑ Other

❑ Do Not Publish BBS Information

BW

NAME BADGE INFORMATION: Must be filled in for Pre-Registration *Note: There will be a $40 fee for any lost badges

Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Title: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Company: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

AFFILIATION:
- ❑ **Independent BBS Operator**
- ❑ **Speaker**
- ❑ **Press** (Please FAX or mail your credentials with this form)
- ❑ **Other**

AT WHAT HOTEL WILL YOU BE STAYING (FOR EMERGENCY PURPOSES)? _____

CONFERENCE FEES:
• On or before May 1 — $175 • May 2 to August 1 — $250 • After August 1 — $325
There is an exhibit-only pass available on-site. The fee is $35 per day

FEES INCLUDE:
Admission to all ONE BBSCON sessions & exhibits, Wednesday evening Welcome reception (cash bar), coffee breaks, and three lunches

OPTIONAL DINNER EVENTS:
- ❑ Dvorak Awards Dinner — $39 per person — Saturday, August 19

"Pre-registrations will be taken until August 4, 1995. All registrations after this date will be taken on-site."

SPECIAL ASSISTANCE REQUIRED: (Please Specify) _____

_____

PAYMENT METHOD:

MC/VISA Check (Payable to ONE, Inc.) Total of check or charge: _____

Credit Card Number: _____ Expiration Date: _____

Card Holder Name: _____ Signature: _____

***Cancellation Policy: Refunds, less $50 processing fee will be issued for WRITTEN requests received by July 21, 1995. Absolutely no refunds after July 21, 1995. No refunds for "no-shows" to the conference.**

RETURN THIS FORM TO:
ONE, Inc. • 4255 S. Buckley Rd . • #308 • Aurora, CO 80013 or FAX to (303) 693-5518

Office Use Only: Date Processed: _____ Registration No.: _____

Authorization No.: _____ Check No. & Name: _____

ONE BBSCON

AUGUST 16-20,1995

HOTEL RESERVATION FORM

ONE, Inc. has arranged for a convention rate at several Tampa hotels for this year's ONE BBSCON. The rates are applicable August 12-August 23, 1995. Only ONE BBSCON attendees and their guests are eligible for these rates.

To obtain the convention rate, reservations should be made with ONE, Inc., prior to **July 21, 1995.** After this date rates are no longer guaranteed and reservations taken by the hotel will be on a space available basis at the prevailing rates from the hotel.

Reservations can only be made by completing this form and sending it to ONE, Inc., by mail or fax. Your hotel reservation will be processed based on the date received. You will receive a confirmation from the hotel verifying your reservation.

****NOTE: Hotel reservations cannot be made until you have registered in full for the ONE BBSCON. There will be shuttle bus service from all hotels to the Tampa Convention Center.**

HOTEL SELECTION

(Please list three choices as reservations will depend on availability. - Prices are per night single or double occupancy and do not include sales tax)

Hyatt Regency Tampa(Host Hotel) $99	**Holiday Inn Ashley Plaza $80**
Sheraton Grand Hotel $92	**Wyndham Harbour Island $109**
Quality Hotel Riverside $59	**Hyatt Regency Westshore $95**

FIRST CHOICE:_____ SECOND CHOICE:_____ THIRD CHOICE:_____

BW

RESERVATION INFORMATION: (Please print clearly!)

Full Name: _____

Company: _____

Address: _____

City: _____ State: _____

Zip: _____ Country: _____

Voice: _____

Fax: _____

(We must have this information to make the reservation.)

Arrival Date: _____

Departure Date: _____

Room Type: ❑Single (1 bed, 1 - 2 people)
❑Double/Double (2 beds, 2-4 people)

Sharing with/Special Instructions: _____

_____

**A credit card is required to guarantee room reservation.

Credit Card Number:_____ Expiration Date:_____

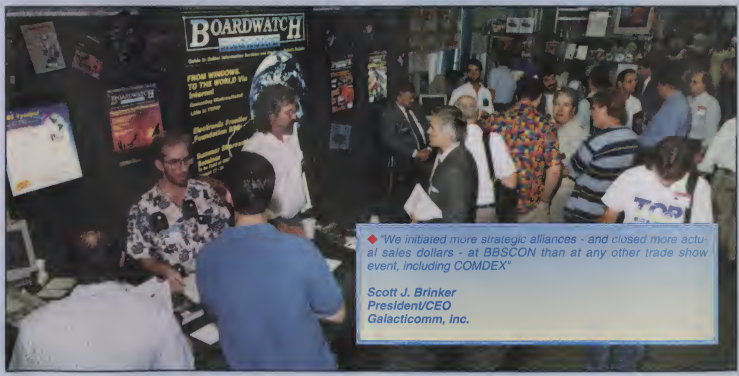
Card Holder Name:_____ Signature: _____

Return this form to: ONE, Inc., 4255 S. Buckley Rd., #308 Aurora, CO 80013 or FAX to (303) 693-5518

Office Use Only: Date Processed:_____ Registration No. _____
Date of Report:_____

FIRST
CLASS
POSTAGE
REQUIRED

ONE, Inc.
4255 South Buckley Road, #308
Aurora, Colorado 80013



◆ *"We initiated more strategic alliances - and closed more actual sales dollars - at BBSCON than at any other trade show event, including COMDEX"*

Scott J. Brinker
President/CEO
Galacticomm, Inc.

ONE BBSCON 1994, VENDORS

Access America
Access Atlanta
ADP AutoNet
American Banking Systems
American Travel
APDI
Arizona MacUsers Group
Assoc. of Online Professionals
Assoc. of Shareware Professionals
Atlanta PC Users Group
BBS Press Service
Boardwatch Magazine
Boca Research, Inc.
BSI Technologies
Cardservice
Cert. Mustang Software Integraters
Cheersoft
Chicago Computer Broker
Clarinet Communications
Clark Development Company, Inc.
Columbus PBX
Community Long Distence
Computer Media Concepts
Concentric Research Corporation
Continuum Software
Criticom Corporation
CYKIC Software
Dallas Remote Imaging
Data Xchange
DATABANK, INC
DataStorm Technologies
DCA
deltaComm
DigiBoard
Digital Consulting
Digital Impact, Inc.
Digital Universe
Durand Communications Network
Electronic Card Systems, Inc.
Electronic Frontier Foundation
EMS Professional Software
Engineer's Bookstore
eSoft, Inc.
Exec-PC, Inc.
Galacticomm, Inc.
Giffy Enterprises
GroupWare, Inc.
GTEK, Inc.
GWA Services
Hamilton Telegraphics
Hard 2 Find Office Products
Hayes Microcomputer Products, Inc.
IBM
INDEX Incorporated
Infinite Data Source
Integrated Solutions
Interface Builders
InterMail Software, Inc.
International Online Service, Inc.
Jabberwocky
Jaye Communications
Jefferson TelephoneAdept
Lanus, Inc.
Lion's Den International
Logicom, Inc.
Matrix Telecom
McAfee Associates
MCI PC Connect
MCI Small Business
Media Technologies
Microcom
MMB Development Corp.
Murkworks, Inc.
Mustang Software, Inc.
Nat. Shareware Library, Inc.
NetManage
Nothern Telecom
NU IQ Software
Online Access Magazine
Online Atlanta Society
Online Communications, Inc.
Pandora Systems
Parallax Development Corp.
PC Information Group, Inc.
Peed Corporation/PC Cat.
Pegasus Press, Inc.
PGG Graphics Images Svcs.
PKWARE, Inc.
Planet Systems, Inc.
Power Computing
Practical Peripherals
ProBoard USA
Prodigy Services Company
Professional Developer's Grp.
PUGDOG Enterprises
Quarterdeck Office Systems
ResNova
Rockwell International
Santronics Software
Searchlight Software, Inc.
SoftArc
SPRINT
Supra Corporation
Team Darkstar
Telefiora Credit Line
Telegrafix Communications
Tessier Technologies
The Business BBS
The INDEX System, Inc.
The MARKetplace
The Pier Exchange
Tint Technologies
Traders Connection
TWO BBSCON
U.S. Robotics
Vironix NA
Voice Information Svcs Ltd
VoiceNet
Women's WIRE
Zoom Telephonics
ZyXEL

NEW IN '95

ADP AutoNET
B3 Corporation
CD Concepts, Inc.
Delfina
Modem BBS
PC Catalog
PrivTel
ATG Systems
Banana
CyCube
Dragon Business Service, Inc.
O'Reilly & Associates
Performance Systems Intl., Inc.
Remote Access Pro/ISD

BUSINESS APPLICATIONS OF BBS TECHNOLOGY

This track provides sessions on various business applications of BBS technology such as product support bulletin boards, online sales services, special topic information services, internal company communications, LAN extension, online databases, shopping online and more.

VENDOR EXHIBITS

In addition to educational sessions, ONE BBSCON provides a unique opportunity to "shop" the wares of various technology vendors. As ONE BBSCON has grown, it has become the "mark" to have new product introductions and rollouts "ready for ONE BBSCON." As a result, many new exciting products make their very first appearance at ONE BBSCON. Last year Internet connections were available on the exhibit floor.

Additionally, in a bid to enlist the early adopter class BBS operators traditionally represent, and harness the information engine provided by several thousand BBS operators who are in DAILY contact with a cumulative mass of several MILLIONS of online callers, vendors have traditionally sold product directly at ONE BBSCON, and done so at extremely attractive "show discount" prices.

The result looks more like a "shopping frenzy" than a traditional vendor display floor with many attendees noting that they pay the expenses for their entire trip with the savings on needed modem, hardware, and software purchases made on the floor.

This year, the Tampa Convention Center provides us with over 100,000 square feet of vendor floor space with a booth capacity of some 300 10X10 display units. And given the success at the previous three ONE BBSCON conventions, we expect to fill them early with some of the most innovative product developers, and exciting new communications products available on the market.

◆ *"Nicht umsonst gilt die Telekommunikation als grösster Wachstumsmarkt der kommenden Jahre - ein Eindruck, der sich auf der «ONE BBSCON» vollauf bestätigte."*

Gerald Meier
Telematik Magazine
Germany

ONE BBSCON 1994 featured over 150 vendors with more expected for 1995.

To find out how your company can become an active player at this year's ONE BBSCON, call (303)693-5253.

HOSPITALITY SUITES

Vendor hospitality suites are traditionally a big part of ONE BBSCON evening activities and a key opportunity for sysops to meet with vendors in an informal setting. Vendors sponsor hospitality suites throughout the event.

This has been a very popular feature at past ONE BBSCONs and provides an excellent opportunity to view additional product demonstrations and visit with vendors and other attendees.

DVORAK AWARDS BANQUET

Another of the more popular features of the ONE BBSCON is the Dvorak Awards for Excellence in PC Communications. Sponsored by Boardwatch Magazine columnist John C. Dvorak, this award recognizes significant contributions in the field of personal computer communications.

This year's awards will be held Saturday evening, August 19, 1995 at 7:00pm. This awards banquet is an optional dinner event priced at $39 per person. Register for this early as seating is limited.

CONVENTION REGISTRATION

To register for the 1995 ONE BBSCON, simply fill out the attached registration form and either mail or fax it to ONE, Inc. at (303) 693-5518. You may optionally complete this registration form by modem by calling the ONE, Inc. BBS at **(303) 693-5432**. Registrations will also be accepted by telephone by calling the ONE, Inc. office at **(303) 693-5253.**

The registration fee for the ONE BBSCON is **$325** which includes all meeting sessions and materials, admission to the exhibit floor area, lunch on the three full days of the convention, and coffee breaks. Early registra-

Past winners of the Dvorak Award include:

Best commercial Online Information System: America Online, Inc. - **Steve Case**

Outstanding Internet Front End: **Internet Chameleon**

Outstanding PC Telecommunications Technology: **AT&T Microelectronics V.34 Chipset**

Outstanding Multimedia Internet Utility: NCSA Mosiac - **Chris Wilson, Jon Mittelhauser, Marc Andreessen, Eric Bina, Aleks Totic**

Outstanding Newspaper Online Coverage and forum: Mercury Center/San Jose Mercury News - **Pete Hillan, Bill Mitchell**

Best BBS Product/Service 1994: Planet Connect - **Joe Overholt**

Outstanding Online Magazine Coverage and Online Forum: TIME Online/TIME Magazine - **Philip Elmer - Dewitt**

Honered for Developing the first electronic Bulletin Board System - **Ward Christensen and Randy Seuss**

Honered as Founder of the International Fido Network - **Tom Jennings**

Development of the Zmodem File Transfer Protocol - **Chuck Forsberg**

Development of Procomm for Windows, Terminal Software - **Tom Smith**

Development of Qmodem Terminal Software Package - **John Friell III**

Development of the First Single Package v.32/v.32 bis modem chipset: **Rockwell Design Team**

Outstanding International Connectivity - **Dr. Vinton Cerf**

Outstanding Hardware Contribution: **Motorola Codex**

Outstanding Reporting in Telecommunications: New York Times - **John Markoff**

Outstanding Software/ Firmware Contribution: Microcom - **Greagory Pearson and MNP1**

Best Overall Commercial Online Information Service: **CompuServe Information Service**

Lifetime Achievement Award - **Ward Christensen**

Lifetime Achievement Award - **Dennis C. Hayes**

Lifetime Achievement Award - **Don Watkins**

tion is strongly recommended. Registrations will be processed based on the date that the completed registration form and **full payment** is received. There is a **discount** of up to **$150** for early registration as follows:

On or before May 1	**$175 per person**
May 2 - August 1	**$250 per person**
After August 1	**$325 per person**

CANCELLATION POLICY: Refunds, less **$50** processing fee, will be issued to WRITTEN requests received by July 21, 1995. Absolutely no refunds after July 21, 1995. No refunds for "no-shows" to the conference.

BUSINESS SERVICES

For your convenience, a business center is located in The Tampa Convention Center offering photocopies, transparencies, fax transmissions, word processing, coat/baggage check, and package shipping. The hours of operation during ONE BBSCON are:

Wednesday, August 16	**9:00am - 5:00pm**
Thursday, August 17	**7:30am - 6:30pm**
Friday, August 18	**7:30am - 6:30pm**
Saturday, August 19	**7:30am - 6:30pm**
Sunday, August 20	**8:00am - 12:00nn**

LOCATION INFORMATION

The Tampa area is a vibrant community full of diversity and culture. Attractions include, Busch Gardens, The Museum of African American Art and Old Hyde Park Village. Tampa features an interstate system that virtually connects all of Florida, making the wonderful amusement parks of Orlando extremely convenient and accessible.

The Tampa Convention Center is located in downtown Tampa overlooking beautiful Tampa Bay.

TRAVEL ARRANGEMENTS

Delta Air Lines and USAir are the official airlines for the 1995 ONE BBSCON. Both offer special meeting discounts for air travel in and out of Tampa and Orlando August 13-23, 1995.

To take advantage of Delta's special fares, call 1-800-241-6760 from 8:00 am to 11:00 pm Eastern Time, daily. Refer to File Number F1294. Some restrictions may apply.

To obtain USAir's discount, call USAir's Meeting and Convention Reservation Office at 1-800-334-8644 from 8:00 am to 9:00 pm Eastern Time. Refer to Gold File Number 65500054. Some restrictions may apply.

SPECIAL ASSISTANCE

For any special requirements, please call the ONE, Inc., office at (303) 693-5253.

ON-SITE SECURITY

The 1995 ONE BBSCON will again have security. Please note that the security personnel have been instructed to be thorough, and therefore all policies established by ONE, Inc., and ONE BBSCON will be strictly enforced by the contracted security company.

Tampa Convention Center

HOTEL INFORMATION

	Room Charges per night Single or double occupancy	Free Airport Shuttle Service	Mileage from Airport to Hotel/Riding Time	Mileage from Hotel to Convention Center/Riding Time	Average Cost of Cab Ride (Airport to Hotel)	Average Cost of Cab Ride (Hotel to Convention Center)	Athletic Facility	Pool
HYATT REGENCY TAMPA (Host) Two Tampa City Center Tampa, FL 33602	$99	Yes	8 miles 15-20 minutes	1 mile 5 minutes	$13 to $15	$4	Yes	Outdoor
WYNDHAM HARBOUR ISLAND HOTEL 725 S. Harbour Island Blvd. Tampa, FL 33602	$109	Yes	10 miles 15 minutes	walking distance	$15 to $20	Walking Distance	Across the Street, Private Club, guests may use it for $10	Outdoor
HYATT REGENCY WEST SHORE 6200 Courtney Campbell Causeway Tampa, FL 33607	$95	Yes	approximately 2 miles 5 minutes	approximately 9 miles 15 minutes	$4	$15	Yes	Outdoor
SHERATON GRAND HOTEL 4860 W. Kennedy Blvd. Tampa, FL 33609	$92	Yes	approximately 3.5 miles 10 minutes	approximately 4 miles 10 minutes	$6	$7	Yes	Outdoor
HOLIDAY INN ASHLEY PLAZA Convention Center 111 W. Fortune St. Tampa, FL 33602	$80	Yes	approximately 8 miles 10 minutes	approximately 1/2 mile 2 minutes	$15	$5	Yes	Outdoor
QUALITY HOTEL RIVERSIDE 200 N. Ashley Dr. Tampa, FL 33602	$59	Yes	approximately 6 miles 10 minutes	approximately 4 blocks walking distance	$12	$5	Yes	Outdoor

GROUND TRANSPORTATION

To Hyatt Regency Tampa from Tampa Airport (by car):
Follow I-275 North, exit #25 (Tampa/Ashley) stay left as the road forks and you will be on Tampa Street. Follow eight (8) lights and the Hyatt Regency Tampa will be on the left at Tampa and Jackson.

To Holiday Inn Ashley Plaza (by car):
Take 60 East to I-275 North downtown. Continue North to exit 25 (Ashley, Tampa, Scott St., Convention) this is the last exit before I-4. Stay to your right, this will put you on West Fortune Street. The Hotel is on this street directly behind the Times Building and the Performing Arts Center.

To Hyatt Regency Westshore (by car):
Take 60 West to the second (2nd) traffic light. This will be Frontage Road. Go left and the Hotel will be on this Street.

To Wyndham Harbour Island Hotel (by car):
I-275 North (downtown) to exit 25 (Ashley/Tampa Streets) Tampa Street South this goes into a dead end at the Convention Center. Follow the signs to Harbour Island. Harbour Island is on Franklin Street and the Hotel is about three (3) blocks up the road.

To Sheraton Grand Tampa Westshore (by car):
Follow signs to Highway 60 East/Kennedy Boulevard (approx. 3 miles) at the first traffic light turn left onto Kennedy Blvd. and travel 3 traffic lights. The Sheraton Grand is located on the right, 11 story black glass and brown marble building.

To Quality Riverside Hotel (by car):
From airport take I-275 North to the Ashley exit. Stay straight on Ashley. The hotel is approximatley 2 miles on the right hand side. You will pass eight (8) traffic lights.

FACILITIES PARKING INFORMATION

Hyatt Regency Tampa
- $7/Day to Valet (guests and non-guests)
- $4/ Day to self park (guests and non-guests)
- 24 Hour Valet Service

Holiday Inn Ashley Plaza
- Complimentary parking (guests and non-guests) • No Valet Service

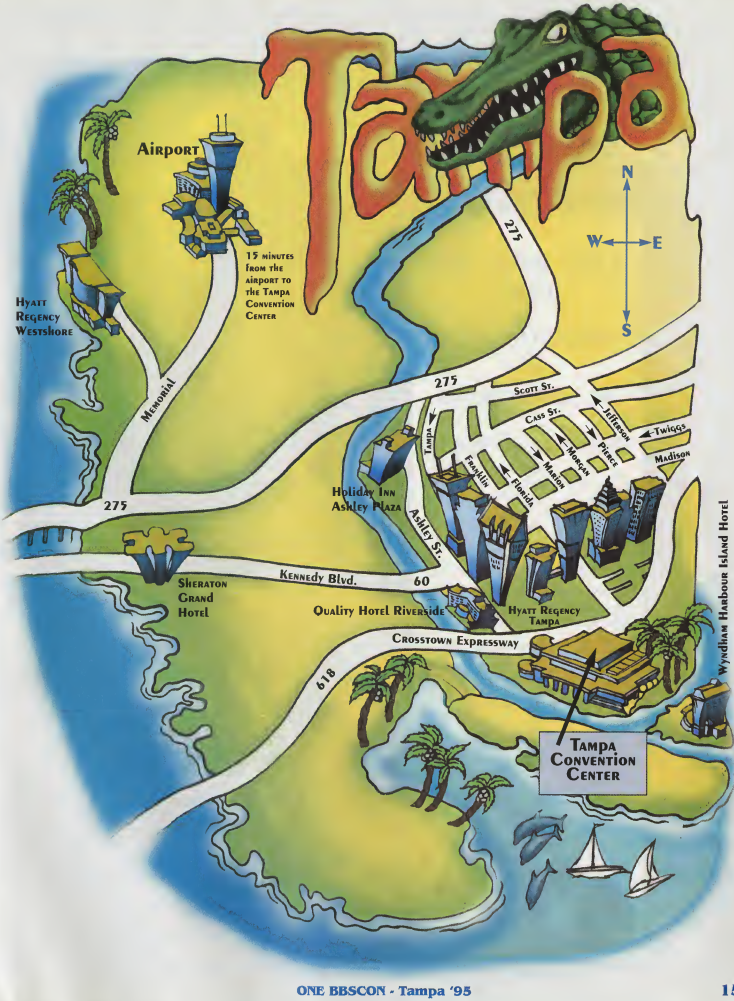
Hyatt Regency West Shore
- $7/Day to Valet (guests and non-guests)
- Self park is complimentary (guests and non-guests)
- 24 Hour Valet Service

Wyndham Harbour Island
- $6/Day for guests and non-guests • 24 Hour Valet Service

Sheraton Grand
- $6/Day to Valet (guesta and non-guests)
- Self park is complimentary (guests and non-guests)
- 24 Hour Valet Service

Quality Riverside
- $5/Day (guests and non-guests) • No Valet Service

Tampa Convention Center
- $1/Per Hour $6 Maximum on Weekdays and $3 Maximum on Weekends
- Entrance on Tampa Street


Tampa
Airport
15 minutes from the airport to the Tampa Convention Center
Hyatt Regency Westshore
Memorial
275
N
W
E
S
Scott St.
Cass St.
Jefferson
Twiggs
Tampa
Pierce
Madison
Franklin
Marion
Florida
Monroe
Holiday Inn Ashley Plaza
Ashley St.
Kennedy Blvd.
60
Sheraton Grand Hotel
Quality Hotel Riverside
Hyatt Regency Tampa
Crosstown Expressway
618
Wyndham Harbour Island Hotel
Tampa Convention Center

ONE BBSCON 1995

REGISTRATION & RESERVATIONS

HOTEL RESERVATIONS

ONE, Inc.
4255 South Buckley Road
Suite 308
Aurora, Colorado 80013
Phone: (303) 693-5253
FAX: (303) 693-5518

RESERVATIONS

On or before May 1	**$175 per person**
May 2 - August 1	**$250 per person**
After August 1	**$325 per person**

TRAVEL ARRANGEMENTS

Delta Air Lines and USAir are the official airlines for the 1995 ONE BBSCON. Both offer special meeting discounts for air travel in and out of Tampa and Orlando August 13-23, 1995.

To take advantage of Delta's special fares, call 1-800-241-6760 from 8:00 am to 11:00 pm Eastern Time, daily. Refer to File Number F1294. Some restrictions may apply.

To obtain USAir's discount, call USAir's Meeting and Convention Reservation Office at 1-800-334-8644 from 8:00 am to 9:00 pm Eastern Time. Refer to Gold File Number 65500054. Some restrictions may apply. ◆